- Genealogy Computer Society
- Meeting the Second Saturday of each Month at the
  Roswell Family History Center 9:AM until Noon

GENEALOGY COMPUTER SOCIETY

Bytes & Branches

Editors Note:

The Genealogical Computer Society is fortunate to be able to call on Glen's knowledge to help us better understand this phenomenon known as the internet. He will present the program on November 11. You will not know as much as Glen after this meeting, but you will have learned a great deal. Glen has spent a great deal of time writing this entire issue in hopes of your gaining a better understanding of the Internet.   Don

Understanding the Internet

CONTENTS OF THIS MATERIAL

1) How does the Internet work?
How is data transmitted from one computer to another? I.e. how does the Internet work?

A. The General Idea
I'd like to take a couple pages and describe some of the details of what is involved in the Internet. While I certainly don't expect everyone to completely understand all of this, I'm trying to present this at a simple enough level that everyone can come away with something. I think that if one has even a minimal knowledge of what some of the main terms used in the internet mean, it can help a lot when it comes to answering specific questions about how or why to do or not do something. So bear with me while I toss out a bunch of technical jargon, and I'll try to briefly explain it. Afterwards I'll give a few specific examples of how this knowledge may come in handy.

If you want to send an email or access a web page, you can't just do it directly. First you have to run a piece of application software. This application encapsulates your message in packets. These packets are sent through a protocol called TCP which controls Transmission of the packets. TCP packets are sent over a protocol called IP which specifies the address of the computer you are sending to. And then you need a connection to the internet itself, which is over another protocol (usually Ethernet or PPP). This is all generally shown in layers, i.e.:
Application/Process Layer

Transport Layer - Transmission Control Protocol (TCP)

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InterNetwork Layer - Internet Protocol (IP)

Network Interface - Ethernet or Point-to-Point Protocol (PPP)

At this point you may be saying, "Why can't I just send my message directly? Why do we need all these protocols and layers?" Well, consider what happens if you want to mail a letter through the US Postal Service (USPS). Suppose you wrote a letter out on a sheet of paper, and took that paper down to the post office and said, "Please give this letter to my friend John Smith."

The postal worker would perhaps say something like this: "I'm sorry, but you need to understand you can't just send your letter directly. Your letter must be encapsulated inside an envelope. You'll also need to decide on a valid application to let you access our postal system. Example applications are First Class, Priority Mail, and Bulk Rate. Then, to make sure the letter reaches its destination, you will need to follow our USPS protocol layered model, which consists of: (note that this set of layers is shown roughly upside-down from the set above)

Network Interface - Name, Street address - allows mailman to deliver the letter locally

InterNetwork layer - City/State/Zip - allows letter to be routed from one post office ("Inter-") to another

Transport (Transmission Control) layer - Return address - allows sender to be notified if recipient doesn't get the letter

Application Layer - E.g. first class - how you are sending the letter

Once you are prepared to follow our USPS protocol, we will be happy to send your letter." Hopefully this Post Office analogy gives a decent general insight into how the Internet works. Although the USPS doesn't really refer to itself in terms of a "protocol layered model", the functions provided by the USPS are in many ways very similar to the functions provided by the Internet. So let's go back and look at the layers used in the Internet and make some analogies to the USPS to help us understand them:

Application/Process Layer - In using the Internet, you have to decide on an application such as Outlook for email or Netscape for web browsing. This is kind of like saying you have to decide on using First Class or Priority mail to send something through the USPS.

Transport (Transmission Control) Layer - TCP. TCP actually does a lot, but one of its main functions is to assure delivery of packets - if part of a web page or email gets lost between the source & destination computers, it retransmits it. This is somewhat analogous to the Return Address on a letter sent through the USPS. If the letter doesn't get through to the recipient (maybe he moved, the address is misspelled, or whatever), the USPS will return the letter to the sender. This isn't quite the same as what TCP does; in the USPS case, they don't actually re-send the letter for you, but at least they let you know that something is wrong.

InterNetwork Layer - Internet Protocol. This is the main addressing scheme used in the Internet. In general (there are a few exceptions but I'm going to ignore them for simplicity), any data sent through the internet must have a source & destination IP address. The IP address is used to route the protocol throughout the Internet. This is kind of like the city/state/zip-code part of a USPS address. This information is used to figure out how to route a letter throughout the country (or even the world) to make sure it gets to the right post office which handles mail for the recipient.

Network Interface - Ethernet or Point-to-Point Protocol. This is used to pass data locally, between computers on a LAN or between you and your ISP. When you connect to the Internet, you must first connect to your ISP through an Ethernet or PPP connection before you can talk to the rest of the Internet. Your ISP is what actually links you to the rest of the Internet. (If you have an Internet connection at work, then your Company has a Router which serves as a sort-of ISP.) This is analogous to the role of a local Post Office. It links you to the rest of the USPS. When you put a letter in the mailbox, the mailman takes it to the local post office which decides how to route it to the rest of the USPS.

For Ethernet in particular, there is another address here called the MAC address. This is roughly analogous to the local (i.e. Street) address on a USPS letter. One might ask, why does the Internet use both a MAC address and an IP address? If both uniquely identify a computer, why do we need both? Without getting into any technical details, that is kind of like asking, why does the USPS use both a Street address and a 9-digit zip code? Both of them are supposed to uniquely identify a house. But in reality, a 9-digit zip code is used more for routing letters between post offices, whereas when your local mailman brings the mail to your street, he is probably looking more at house numbers than the last 4 digits of a zip code. So both with Ethernet vs IP addresses and with Street address vs. 9-digit zip code, while there is some redundancy involved, in both cases the 2 entities serve different purposes.

B. Acronyms
-Let's consider acronyms used in the Internet. With a few exceptions, most of these involve application protocols:

ARP - Address Resolution Protocol. Since ultimately both

Glen's story continued

the MAC address and the IP address of a destination computer must be known, this is used behind the scenes to find out the MAC address if only the IP address is known. While you are connected to the Internet, from a DOS prompt, you can type the command "arp -a" to see the addresses that your computer knows about.

DHCP - Dynamic Host Configuration Protocol. A method of dynamically assigning IP addresses to computers. When a computer logs on to the network, the DHCP server selects an IP address from a master list and assigns it to the computer. In Windows 95/98, within the IP tab of a TCP/IP Properties screen, if "Obtain an IP address automatically" is selected, this is using DHCP.

DNS - Domain Name Server. E.g., yahoo.com and gencomputer.org are domain names. A DNS looks up a domain name and translates it into an IP address. Thus, a DNS functions something like a telephone book, allowing you (or more importantly, an application like a web browser) to look up someone's address given their name. In Windows 95/98, the DNS Configuration is a tab on the TCP/IP Properties screen.

FTP - File Transfer Protocol. Often used to download files from the Internet, or to upload files if you have your own web site.

HTTP - HyperText Transfer Protocol. Used to transmit and receive most data over the Internet. When you type an address (i.e. a URL) into your browser, you're actually sending a request to a Web HTTP server for a page of information (that's why web names usually begin with "http://").

IP - Internet Protocol - the main protocol used for the Internet. Each device on the Internet gets its own IP address, consisting of 4 numbers from 0 to 255 separated by dots. (E.g. 30.0.250.83 is an IP address.) Ultimately, all communication between computers is done using IP addresses. What if you don't know the IP address of a computer you want to talk to? If you know the Domain Name, type that in and let a DNS server look up the IP address.

ISP - Internet Service Provider. (E.g. Earthlink, AOL, Compuserve are ISPs.)

LAN - Local Area Network - 2 computers in your house, or 100 computers in your office, all networked together is considered a LAN. The connection between your computer and your ISP can be considered a LAN connection. A LAN is tied together using local (data link) protocols such as Ethernet or PPP.

MAC Address - i.e. Media Access Control Address - The kind of addressing used in Ethernet.

NetBIOS - Network Built-In Operating System - Provides an interface to the Windows Operating System over a Network. Not used in the Internet per se, but many LANs use these.

POP - Post Office Protocol - used for receiving email.
POP3 - Version 3 of the POP standard.

PPP - Point-to-Point Protocol - generally provides a LAN connection to your ISP.

SMTP - Simple Mail Transfer Protocol - used for sending email.

TCP - Transmission Control Protocol. This protocol runs on top of IP, so-to-speak. It provides functions such as re-transmitting packets (parts of a message) that have been lost, checking the order of packets to reassemble the message correctly, etc. Applications (such as FTP, HTTP, and email (POP/SMTP)) all use TCP to actually send messages.

URL - Uniform (or Universal) Resource Locator - URLs are the Internet equivalent of addresses. How do they work? Like other types of addresses, (from zip code to recipient, so to speak). E.g., "http://www.cnet.com/Resources/index.html" is a URL. In this URL, "cnet.com" indicates the Domain Name. This is translated by a DNS into the IP address of a particular computer. The rest of the address is local to the computer. The "http://" indicates that you want to send this request to an HTTP server. E.g., "ftp://" would instead indicate that the request should be handled by an FTP server.

WAN - Wide Area Network. This consists of many LANs connected to each other. The Internet itself can be considered a big WAN. Without getting into too much detail, let me say also that that each LAN on the Internet can also be called a Subnet. Thus, you may see reference to a Subnet Mask, which essentially identifies which LAN that your IP address is on.

WINS - Windows Internet Name Server - analogous to DNS - not used in the Internet per se, but certain Windows applications may use this. This is often used in LAN environments, e.g. an Internet connection you have at work or even a DSL/Cable-modem environment.

C. Putting it all together

So let's try to bring all this together. Every machine on the internet ultimately has an IP address. This is how informa-

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tion gets passed to the right machine. This works somewhat like a Postal address which must ultimately be there to deliver a letter.

Beyond that, different applications run on top of IP. Most of these work in terms of a client/server model. This doesn't make for a perfect analogy to the postal system, but it could roughly be said that in the postal system, you are the client and the USPS is the server. In terms of different protocols:

For example, when you browse the web, your web browser (Netscape or IE) is actually an HTTP client. The HTTP server is generally the web host for the website you are visiting.

As another example, when you type in a URL like "gencomputer.org" or "yahoo.com", in addition to functioning as an HTTP client, your browser is also functioning as a DNS client. The DNS server which looks up these names and translates them to an IP address is generally within your ISP.

As another example, when you read & write email using a program like Outlook, Eudora, or Netscape, each of these programs is a POP & SMTP client. The POP & SMTP server is generally contained within your ISP which is providing the email service. (As a side note, web based email sites such as Hotmail generally do not use POP/SMTP, but they tend to be accessed simply as a web site, using HTTP, with something like Java running on top.)

Okay, how is all this information practical?

Most of this is handled behind the scenes of the applications you run. But sometimes you need to know certain aspects of this. For example: - If you want to switch from one email program to another (e.g. from Outlook to Eudora), you will have to configure the new email program. In addition to your username and password, you will need to know the name of the POP and SMTP servers for your email account. You will have to set these in something like an "options" or "preferences" menu for the new email program. Often your ISP will provide a FAQ (Frequently Asked Questions) page which shows this info, or you can call the ISP's Tech Support to find out.

- If you have your own web site, you may need an FTP application to store files. You can download one of these from the web, and then you'll need to configure it by giving the name of the web host's FTP server. This also is generally available from a web host's FAQ page on the web, or through their Tech support.

- You can get your own Domain Name for yourself or your company (as I have done recently with our organization, "gencomputer.org"). If you do this, you will need to register with a service which will provide a DNS—i.e. which will translate your domain name into the web host IP address where your web site is located.

2) Computer viruses

A virus is a malicious program that runs on your computer. Catching a virus thus involves giving control to the malicious program to be able to run. This can happen in several ways:

A. Email attachments

This is by far the most common way viruses spread. Within an email program, generally double-clicking on an attachment will open it. If the attachment is an executable file, then opening it allows the program to run on your computer. If the attachment/program is or contains a virus, you've just caught it!

The best ways to avoid catching a virus in this manner are to be careful about opening email attachments, and to have anti-virus software.

Be aware of the settings of your antivirus programs. For example, these programs may do some sort of "system scan" every couple of hours. If so, it may be a couple of hours from the time you have gotten your email until your anti-virus program will warn you of a potential problem. Most antivirus programs can be run explicitly also. If you see a suspicious email attachment, you may want to explicitly do an antivirus scan before you open it. Also make sure that the antivirus program is set to scan for the file extension (i.e. file type) of any suspicious file. Make sure its virus definitions are up to date. Most good anti virus programs have a way to actually remind you to update your definitions on a regular basis.

A few well-publicized viruses have spread as MS Word Attachments. You can minimize this problem by making sure the "Macro virus protection" box is checked in MS Word under Tools / Options, on the General tab. If you ever open a file (email attachment or otherwise) in MS Word and it asks you if you want to enable Macros in the file, be very very careful. Macros can be very useful for advanced MS Word users, but they can also signal the presence of a virus.

B. Downloading or copying a program

From your web browser, generally double-clicking a link which is an executable file will download or open the file.

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Generally, you have slightly more protection with a web browser than with an email attachment, in that the web browser will often ask you if you want to Open the file or Save it to disk, and will warn of possible Security hazards. (This is, however, somewhat dependent on the browser's Security preferences.) Similarly, you may copy a program from a floppy disk, zip cartridge, or CD. In any of these cases, executing a given program if it is or contains a virus is bad news!

If you download or otherwise copy programs from external sources, make sure it runs through your anti-virus program before you run the given programs. The points made in the preceding section about antivirus software apply here as well.

C. Web browsing

Generally, you do not catch a virus simply by clicking on a web page (as long as you do not specifically download/execute executable programs). However, this to some degree depends on your web browser security preferences. Also, web browsers (like email programs) can contain security holes. It is easier to find a security hole in a web browser than in an email program, since web browsers by nature browse more than just text. This is especially true if Java and/or Javascript are enabled, since the nature of Java is to execute code on your computer. Thus, you should regularly check for program updates to your web browser. Often these updates will fix any known security holes.

D. Reading email

At one time, it could be stated that it was absolutely impossible to catch a virus simply by reading email. (Opening an attachment is another matter, as explained above.) This is because reading a basic email message is generally text-only, and you cannot catch a virus from reading through text - there must be some program execution happening to catch a virus.

However, more recently most e-mail programs have added functionality to read HTML pages. The idea is that now email msgs no longer need to be just text, but any graphics, formatting, etc which can be done on a web page may now be sent as an email msg. This means that your email program is now functioning very similar to a web browser. Unfortunately this also means that your email program can potentially contain security holes similar to those in a web browser. Recently, there have been a few well-publicized viruses which have spread simply by people reading email. When these viruses became known, the makers of the email programs have quickly posted updates to the programs to close the security hole. Thus, you should make sure that you have the latest update to your email program.

Microsoft Outlook has been notorious for having security holes of this nature on several occasions. Netscape has occasionally had such security holes. I have not heard of any such security holes in Eudora or Juno. (That does not mean that these programs have never had such a problem, just that I haven't heard about it.)

E. Other ways to attack your computer-

If file or printer sharing is turned on in Windows, this can in some cases allow hackers to view and change any file on your computer. Generally you should always turn these off unless you have a specific need for them, such as a LAN in your house. Another Windows setting involves NetBIOS. If this is enabled in your Windows networking preferences, this can allow a hacker to send you a file with NetBIOS commands which will execute and thus give you a virus. Also, running any kind of server on your computer gives others an avenue for external access, and can in general pose security risks.

Generally having a DSL or Cable line is considered more risky than Dial-up access. There are several reasons for this, including the fact that your computer is connected to the Internet for a longer period of time, having the same IP address for a long period of time gives a hacker more of a "target", and people in the same neighborhood may be on the same IP Subnet as you. Generally, a firewall is the best way to protect yourself from all these types of attacks. You can download a *free* firewall called ZoneAlarm from: http://www.zonelabs.com/zafreedownload.htm This program is absolutely free as long as you are downloading it for personal use. This firewall has gotten high praise in several magazine and newspaper articles I have read. PC World even rated it higher than Norton's firewall program.

You can read more about computer security at a site called "Shields Up!". To get to it, go to: http://grc.com/default.htm and click on the "Shields Up!" banner a little ways down the page. This page will actually try to "hack" into your computer (in a harmless way) and then print a report on-screen telling you how good or bad your computer's security is. Several of the things mentioned above in this page, such as Print/File Sharing, NetBIOS settings, and Server settings on your computer will be taken into account.

3) Downloading files

Often, beginners on the Internet get confused about how to download files. The key thing about downloading is to make sure you aware of the directory path and the filename that is being downloaded. When the download has completed, you will want to know where the file is. This can be explained with a specific example. Suppose you want to download the "Yankee Clipper Plus" program. (This program enhances the Windows Clipboard by remembering the last 50 or so items that you copied to it.) The web page for this is: http://www.levasseur.net/YCP/

On this web page, you'll see a "Download" button. If you click on this button, it will bring up some sort of window. The exact form of this window depends on your web browser. If you are running IE or earlier Netscape ver-

sions, it will first ask you if you want to Open the file or Save it to disk. Generally, you will want to Save it. You will then see a Save File dialog. This looks very similar to the window you would see if you Save a file in Word or WordPerfect. You can use the arrow keys at the top of the dialog box, double-click on folders, etc to navigate around and get to a directory where you want to store the file.

If you are running a very recent version of Netscape (with its SmartDownload feature), it may work a little differently. You will not be asked whether you want to Open or Save, or be given a dialog box to choose a directory. It will instead open a window and start downloading immediately. The directory where the file is downloading to is displayed on this open window. If you want to change this destination directory, click on the "Advanced" button, then click on "Browse". You will then see a window somewhat similar to the Windows Explorer interface, you can choose a directory where you want to store the file, and click Ok.

When the download actually starts, you will see a progress window showing the file being downloaded. This window will also show the name of the file. E.g., in the case of Yankee Clipper Plus, you should see the pathname followed by the filename "YCPSetup.exe".

Tip: Create a 'download' root directory off C:\, or else off C:\MyDocuments (can use Windows Explorer, or can actually do this right from the 'Save' dialog window in your browser). The next time you download something, put it here. Your browser should remember this directory from then on, and you'll always know where your browser is putting downloaded files.

What to do when a program has finished downloading? In some cases your browser may simply ask you if you now want to Open or Execute the file you just downloaded. If not, then in general you should bring up Windows Explorer, go to the folder & file you just downloaded, and double-click to open/execute it.

Tip: Don't be paranoid, but do be cautious, about viruses when downloading files from the web. Try to download from sites that you trust, and make sure your Virus definitions are current.

4) Bookmarks / Favorites

Netscape uses the term Bookmarks, while IE uses the term Favorites. In the rest of this section I'm going to use the term bookmarks as a generic term to refer to them in either program. The only exception is that if I am specifically referring to IE, I will use the term Favorites.

Did you know that you can organize these into folders (directories), to make them easier to find? In Netscape, under the Bookmarks tab on the toolbar, go to Edit Book-

marks. In IE, under the Favorites menu, click on Organize Favorites. In both cases, this opens a new window where you can create folders & subfolders, move existing bookmarks into folders, delete bookmarks, and edit bookmark properties.

For example, you might create a bookmark folder called Genealogy. Then create sub-folders for different genealogy topics or interests - Georgia sites, NY sites, surname lists, general links, etc. When you file a bookmark, file it in one of these specific folders, as appropriate.

Have you ever created a bookmark but later realized that the "name" of the bookmark was either blank altogether, or some meaningless name? You can actually edit the name of the bookmark. In Netscape, on the Edit Bookmarks screen, click on the bookmark, then on the Edit tab select Bookmark Properties. In IE, on the Organize Favorites screen, click on the favorite, then click the Rename tab on the left. Also make sure you back up your bookmarks!

In Netscape, from the Edit Bookmarks screen, choose File / Save As. In the window that opens, navigate to the directory where you want to back them up. This can of course be a floppy, zip, or CD-RW drive. You can also save the Bookmark file manually. The name of the file is "bookmark. htm", and you can use Windows Explorer to copy the file. To find this file, from the Windows Start menu, choose Find / Files or Folders, and type in the above-mentioned file name. Actually the file is probably located at C:\Program Files\Netscape\Communicator\Users\<my_username> \bookmark.htm.

In IE, to backup your favorites choose File / Import and Export, and let the "Wizard" walk you through the process.

If you need to restore previous bookmarks, the process is similar. E.g. in Netscape in Edit Bookmarks, choose File / Import. In IE, the same "Wizard" is used for Importing.

5) Tips for web browsing

To re-visit pages you just accessed, use the Forward / Back buttons, or look under the Go menu. Or, if you are getting tired of using forward/back a lot, try this: when you click on a Link, instead of using the Left mouse button, use the Right mouse button, and select "Open in new window".

Did you visit a page yesterday, and now you want to visit it again but you can't remember the address (and you didn't bookmark it)? Type <CTRL-H> (works both in Netscape and IE) or: in Netscape, go to Communicator / Tools / History. in IE, click on History on the toolbar.

6) Dialup Connections

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In Windows 95/98, get to these a couple of ways. The easiest is on desktop - MyComputer / Dialup Networking. Each connection has its own properties - select the connection, then choose File / Properties. (Note that a separate set of options shows up under Connections / Settings. E.g., if you want Windows to try a connection several times if it gets a busy signal, you can change that here.)

On the connection properties menu, under "Server Types", see if NetBEUI is checked for each connection. If it is, you should probably uncheck it. This is the Net BIOS Enhanced User Interface, and it can give a hacker too much access to your computer. Unless you are on a private network and specifically want to control multiple computers over the network, you probably want this off.

 If you setup a new Internet service and it doesn't connect, one thing to try is to pick up the phone and listen while it dials. Did it dial 10 digits for a local Atlanta number? You may be able to fix it here uncheck "Use area code and dialing properties", then put the area code as part of the phone number itself instead of being separate.

Use the "Configure" button on this screen to change the modem speaker volume. Having trouble connecting at a decent speed for a 56K modem? Having clicked on "Configure" to bring up the modem configuration screen, go to the "Connection" tab, then choose "Port settings". Change the Tx & Rx Buffer settings towards "Low". Note that if this does not help, remember to go back and change them back to the Defaults value later to avoid making things even slower.

7) Netscape Preferences

Look under Edit / Preferences

Under Navigator: Want to change which page first loads when you access the Web? Change the "Home Page".
Want to clear out the History of sites that you have visited, or change the length of time they stay in the history list? Do that from this screen. Can also clear out the history that shows up in the Location Bar. (Note: To more fully wipe out the history of where you have been, you'll need to clear the Cache also - see below.)

Under Advanced:
 Don't like Cookies? Can change this option to accept all/ some/no cookies, and/or to warn you beforehand. Warning: some pages on the web will not work /load correctly without cookies.

Are some pages really slow because of all the pictures on the page? Uncheck "automatically load images" to change this.

- Is your browser crashing a lot? Uncheck Java / Javascript and see if it helps. Unchecking these can also make your browser slightly more secure since these can occasionally be a source of security holes. Warning: some pages on the web will not work / load correctly without Java.

- Having a problem where sometimes you think/know a page has changed, but the old version shows up? Look under Advanced / Cache, and change option to "Every Time". Can also clear the Cache from this screen. (This is analogous to the "Temporary Internet Files" settings for IE. For a more complete explanation, see the discussion in that section below.)

Under Mail / Newsgroups: If you use newsgroups, or if you use Netscape as your email program, this has plenty of options.   Identity: Under Offline: This can also be useful for email.

8) Windows 95/98 Network Settings

>From Start / Settings / Control Panel:
- Double-click on Network. This shows a list of Network components installed on your computer. Examples include protocols such as TCP/IP, as well as adapters such as Dial-up adapters (i.e. modems) and Ethernet cards. You can double-click on any of these components to see more detailed properties. - Double-click on Internet options. This shows a host of options you can configure. Some of them are specific to using IE as your web browser, but others are more general. From a DOS Prompt, try these commands while you are connected to the Internet: (Note: if you have a firewall, you may have to temporarily disable it to get results from some of these.)
winipcfg
ping www.yahoo.com
tracert www.yahoo.com
arp -a

## 9) The "Internet options" menu

There are 6 tabs at the top of this: General, Security, Content, Connections, Programs, Advanced. Many of these items are specific to using IE as your web browser, but there are some exceptions. E.g., the Connections tab has to do with Connecting to the Internet, not with Browsing.

General:
The things on this screen are specific to using IE as your web browser. The Home Page is the page that comes up when you first open IE.

Temporary Internet Files is a directory of Internet files recently accessed by IE. Under "Settings" you can change

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Fax: 770-893-1532
Email:don@martechpc.net
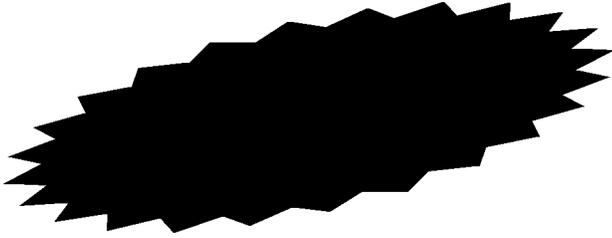
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how often IE checks for a newer version of a web page, and how much disk space to use to store recently accessed files. The idea is that if you visit the same web page several times, viewing the copy of the page stored on your hard disk will be much faster than actually loading the page from the Internet each time. However, if a page has been changed on the Internet recently, viewing the version on your hard disk may cause you to see the old (out-of-date) version of the page. For example, if you are viewing an online auction which updates in real-time, you probably want to make sure the page checks for a new version every time. (This is analogous to the "Cache" in Netscape.)

History - Can clear your IE Browser history file from here, or change how long things stay in the file.

Security:
This tab sets a security level which includes things like whether Cookies are enabled and whether your browser will specifically prompt you for potentially unsafe actions.

Content:
Contains Content Advisor, Certificates, and Personal information.

Connections:

The Dial-up connections here are all installed ISPs that you dial into from your computer. For more details, see the "Dial-up Connections" section of this tutorial. LAN settings are only applicable if you have a LAN set up. E.g., one computer may function as a proxy server. (This would be typical in a business, where the company's firewall would be a proxy server.)

Programs
This sets a default program for each type of internet service.

Advanced:
This has a host of settings. Some of them are pretty obvious while others, I don't know what they mean. In general, it should be safe to adjust these settings. Just remember what you did, and if you don't like the effect, change it back.

10) Other Possible Internet Topics

Other things that might be of interest include:
- Aspects of Internet such as Newsgroups, Chat Rooms, **Message Boards.**
- Sites to get free software, such as Tucows.
- Search Engines.
- Specifics on email programs (Outlook, Outlook Express, Netscape, Eudora, Eudora Light, AOL, Juno, etc).