Digital Hygiene: Security Tools

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Digital Hygiene: Security Tools

Posted on October 1, 2006 by Editor

By Charles Boulet <charles@pacificu.edu>

Please note that the links included in this article have been tested and are non-threating. Feel free to explore the various product and information sites listed to learn more. Also, given the nature of Internet threats, this article necessarily focuses on the Windows operating systems. Not that Linux, Mac, and other OS’s are impervious to threats, they just don’t enjoy the same notoriety among hackers. As a sidebar, this article (Click Here) illustrates how many computer applications, well beyond the home PC, are subject to threats.

Even with the varied and expanding list of threats to data security, protecting against the vast majority of online threats remains a relatively simple task — subscribe to and install a suitable Internet data security solution on each connected computer on your network. This article will present some of the key components to include in a complete solution and provide the reader with skills and knowledge required to make a sound choice for their own purposes, and will also make product recommendations.

This article will attempt to define exactly what ‘suitable’ means to protection of data and computer while interacting with and via the Internet. But first, consider the recommendations to subscribe to and install protective software.

- **Subscribe:** Most software that requires regular updates is purchased, that is, licensed, on a subscription basis. Most often, individual and SOHO (Small Office, Home Office) users will prefer to subscribe to yearly updates. This is easily the most simple and cost-effective way of affording solid protection for your PC’s and data. There are many shareware and freeware products available for download, but none of these products provide the full coverage that mature commercial products offer. Even with the added cost (usually around $25/computer for small group licenses, and less than $50 for individual licenses), the overall cost of ownership is far less for the retail products if you tally in your own personal time to hunt for and install the various components you need for full coverage, not to mention the time and money spent in the repair shop if you forget to include some key components and tools. In this case, a penny saved on software is a hundred dollars lost in the long run.
Install: So you bit the bullet and acquired some wonderful new software to protect your investment. All your precious photos, documents, mp3 files, movies and software are safe from the Internet bugbears lurking behind every popup. Well, it’s almost that easy. Amazingly, a large number of people who acquire Internet security software, either as a single purchase or as a giveaway through a hardware retailer or ISP, never install the software. And for those who do, many neglect the need to constantly update it. Comprehensive retail Internet security products generally include the capacity to automatically update their software and threat definition tables*, as long as your computer has a live Internet connection. Old threat definition tables are as good as useless. This is one time you definitely want to let the software engineers manage your life — set the software auto-update to update whenever and however frequently it needs to and then forget about it. Period.

While there are many software tools available to provide Internet data security, the differences between them are significant and the choice of tools can be confusing, even frustrating. Some software solutions are comprehensive, while others require addition of supplemental modules to manage all areas of concern. The latter is the case with most freeware and shareware solutions — while they can sometimes be very good at what they do, they often don’t cover enough ground on their own and require the installation and maintenance of additional software. Comprehensive retail packages are recommended because they include all the tools you need in one package and they tend to be very well integrated so the user experience is positive. It is best to avoid solutions that also include extra tools that don’t relate to Internet/Data security.

In no particular order, here are some elements you should insist upon in a full-coverage retail Internet security product:

A. Updates: It is sometimes said that one software title will detect more threats or detect threats more easily than another. While there may be subtle differences between solutions, expect that regularly updated software and threat definitions will mean you will be protected, provided you stay with the top vendors (ZoneLabs, Symantec/Norton, TrendMicro, McAfee, and SpyBot — See Final Comments and Recommendations at the end of this article.).
   i. Best Practice: Always let your security software update itself whenever it needs to. If it means that you have to stop what you’re doing and let your system reboot, just let it happen.

B. Scans:
   i. Data is exchanged between your computer and the Internet. Your data can be compromised in traffic (changed to something else before it gets to you), redirected or copied to another computer. Your software should allow you to automatically and manually scan data as it’s being transferred to your computer and after it’s stored.
   ii. Bad software can also make its way to your computer. Some programs reside on other computers and scan your system for vulnerabilities, while other
programs are transferred to and executed on your local computer. As with data protection, you need to have the flexibility to automatically and manually scan your files for spyware, adware, and of course trojans.

C. Wizards for configuration of automatic Protection, automatic Updates, Antifraud protection. Furthermore, you should be notified when you’re not fully protected and a Wizard should take you through the fix.

D. Pervasive links to helpful tools and information from all screens:
   i. Easy Help. Software is useless if you don’t know how to use it.
      a. Best Practices: F1 is the international symbol for Help in friendly software. Try it now! Press F1 on your keyboard to see what happens.
   ii. Virus/Threat Libraries so you can find out more about the threats in your environment.
   iii. Technical Support/Customer Care in person and in addition to ‘knowledge bases’. At the very least you should have direct and prompt email access to sales and technical support centers.

E. Anti-virus Elements: Computer viruses are no longer the threat they used to be, but they are still pervasive and potentially catastrophically dangerous, causing loss of data, system instability, or complete failure. Virus protection is a must in any comprehensive Internet security solution.
   i. Automatic scanning of all data.
      a. Best Practices: Always enable automatic antivirus scans for all incoming, outgoing, and stored data. Just let the software do its job. It may slow things down a little, but it’s well worth it.
   ii. Manual and Scheduled Scans: You should scan anything you download from the Internet. If your automatic scanning is turned off, don’t forget about scanning downloaded files. A moment’s forgetfulness can often lead to hours of pain and discomfort.
   iii. Real-time virus protection: You will have to decide what level of comfort you have with your files. It’s best to start at maximum protection and use real-time virus protection. You gain a lot of peace of mind in exchange for slightly slower performance. Unless you have a specific reason not to, use real-time protection.
   iv. IM/Mail Scan: IM and email are leaders in transference of viruses. The software should support scanning on all information you deliberately send over the Internet. This includes IM and email, but also those data transfers that occur in the background, outside of your view, for both legitimate and unwelcome reasons.
   v. Outbreak Warnings: Instant and automatic notices of new threats can be helpful and even interesting. The more you know about your environment, the better prepared you will become.
   vi. Quarantine Management: Should a file become ‘infected’, you should have the option to delete it, clean it, or put it in quarantine. The best first option is to clean the file, but if it can’t be cleaned then it should only be quarantined if the
data must be saved. There are various products and companies that tailor to
data recovery, so you should never have to lose key data.

F. **Anti-spyware**
   
i. **Elements:** As is the case with virus scanning, spyware scans should be
available as manual, automatic, and scheduled functions – this includes real-
time protection for when you are in the process of exchanging data over the
Internet. You should also be able to define an “Exception List”, that is to say
identify programs that behave as spyware but have your permission to do so.
Finally, as with antivirus protection, spyware protection should include
‘Quarantine Management’.

G. **Antiphishing, Spam & Content Protection:** There are many ways sneaky people
try to get information from you. **Phishing** (pronounced ‘fishing’) is the practice of
baiting people into divulging protected information by using some sort of distraction or
fraudulent tactic. Your complete Net security solution should include simple-to-use
tools to protect your most valuable information.
   
i. **Antifraud Wizard:** The best software includes a simple system to help you
identify the information you wish to protect.

ii. **Spam and Fraud Filters:** You should not have to define all sites and email
addresses that could potentially cause trouble. Effective spam filters recognize
email patterns to help identify junk mail, while fraud filters check the mail you
receive against databases of known sources of fraud and let you know that the
mail is potentially dangerous.

iii. **Web Site Filter:** These filters allow you to determine what sites are acceptable
for viewing. You should be able to select broad categories (like gambling sites,
or pornography sites) for exclusion in addition to specific sites not included on
the automatic lists. Finally, you should be able to easily remove specific sites
from exclusion lists.

iv. **Privacy Protection:** You should be notified immediately before your private
and sensitive information is transferred over the Internet. Good software will
notify you that you are about to send the information and give you the option to
proceed or cancel the transfer.

v. **Vulnerability Check:** Your security software should allow you to automatically
and/or manually scan for vulnerabilities. This usually means checking for
software that needs to be ‘patched’ in order to meet current standards for
security, this includes your operating system. Once vulnerabilities are identified,
the software should also assist you in locating, downloading and installing the
necessary patches.

vi. **Tracks and Trails:** As you navigate the Internet, your browser, by default,
helps to collect information about where you’ve been.
   
a. You should be able to easily clear your History, cookies, and temporary
   Internet files.

   b. **Best Practices:** Cookies are called cookies for a reason – they can be
good and good for you. Cookies allow your favorite web sites to help you
by remembering your favorite choices about simple things. If you don’t
know how to configure your software to selectively delete cookies, then
just delete them all. Temporary files can be helpful too, but they should
also be recycled on a regular basis.

vii. Wipe Tools: To wipe something is to remove it, permanently. Data is not
removed from your computer when you hit the Delete key; it is easy to
recover, and sometimes that’s a good thing. Other times, such as when
you’re on a live network with hundreds of millions of users, or when you sell
your computer, you want to be more careful about the data you ‘delete’.
Wiping (aka shredding or scrubbing) a hard disk drive or only wiping selected
files means the same thing. The files are overwritten with nonsense data at
least three times so that they become more difficult to retrieve.

H. Network Security Elements: Network security encompasses the protection of the
open network channels entering and leaving your host computer. While you want to
leave doors, that is ‘ports’, open for traffic, you must be selective about what ports
remain open, who is allowed to pass through the ports, and in what direction
information is allowed to travel. Here we are talking about firewalls.

i. Private Network Protection: Generally speaking, your Internet connection is
fed into one computer, called the gateway. This is often the best place to install
the software firewall. This allows you to isolate the gateway and any other
computers connected to your local network and have all your computers
grouped together as a functional unit. Your Internet security software should
recognize your local network and configure itself to allow free flow of
information within it, while keeping unwanted external traffic at bay.

ii. Personal Firewall: Next to virus protection, a robust and easily-configured
firewall is the most important element in your security arsenal.

a. Best Practices: Take the time to learn how to configure your firewall.
These tools can seem daunting at first, but in learning to configure the
firewall will allow you to achieve some truly unique and powerful network
solutions.

iii. Wi-Fi Intrusion Detection: If you use a wireless network, you will need to
know what computers are attempting to gain access to your network. By
default, Windows operating systems leave many open ports that can lead to
compromise. You should lock out any and all wireless access to your
computers and network except for trusted computers only.

I. General

i. Update: Your software should notify you of available updates, and download
and install these updates automatically. The update process should not
interfere with other open applications.

ii. Registration / Upgrade / Renewal: Again, the process for renewing your
software should respect your sense as a consumer and not be pushy or leave
nasty adware behind should you decide to not renew.

iii. Event Logs: In the event of a technical error, finding logs of events (updates,
virus scans, etc.) should be simple. Plain text files of logs should be available for export or printing.

iv. **Spyware, Adware, Trojans:** These annoyances come in various forms and are not always recognized as ‘viruses’. Your software should you’re your computer and files specifically for known bugs and assist you in removing them.

**Final Comments and Recommendations**

If you’ve read this far, you have proven your interest in Internet security tools if not your desire to actually implement something that works well for you. While there are many products on the market that address security issues, it would take much time to review all the features and then make a balanced decision regarding which product to spend your money on. Not every product will include all elements listed above, in fact, only a few come close. As reward for your diligence and commitment to Internet security, allow me to make a couple of specific recommendations:

**Retail Options:**

- TrendMicro PC-cillin Internet Security
- ZoneAlarm ® INTERNET SECURITY SUITE
- Norton Internet Security 2007

**Honorable Mention SpyBot:** [http://www.safer-networking.org/en/index.html](http://www.safer-networking.org/en/index.html). While SpyBot is not a full security solution, it works very well as a complement to the comprehensive retail packages. The price: $0, but donations are encouraged. See Best Practices below.

**Definite Trouble:** VirusBurst [http://www.virusburst.com/](http://www.virusburst.com/). Here’s a great example of malware. If you install the trial of VirusBurst, it installs a pesky little popup machine that informs you that critical system errors are detected. In reality, the only ‘virus’ you have is the VirusBurst engine. I personally never tried the software because of this problem and advise readers to do the same.

**Best Practices:**

1. Always ensure your Windows Registry is backed up before you make any changes to it. Click [HERE](http://bcis.pacificu.edu/interface/?p=3294) to get more information.
2. Before buying software, always check with reputable references before opening your wallet. Online sites for computer magazines are great sources, as are employees at small to medium sized privately owned computer stores.
3. Make a donation to the good people at [www.safer-networking.org](http://www.safer-networking.org) if you use SpyBot. It’s a great tool that works as a complement to your full-function Internet solution.

* Threat Definition Tables: These are libraries of computer code that the Internet security software uses as a reference as it scans incoming and outgoing data for malicious code, be it virus, worms, malware and others.
** See also: http://en.wikipedia.org/wiki/Computer_virus

This entry was posted in Uncategorized by Editor. Bookmark the permalink [http://bcis.pacificu.edu/interface/?p=3294].

31 THOUGHTS ON "DIGITAL HYGIENE: SECURITY TOOLS"

** earn online dollars without investment **

on January 30, 2014 at 11:38 PM said:

I know this if off topic but I’m looking into starting my own blog and was wondering what all is required to get setup? I’m assuming having a blog like yours would cost a pretty penny? I’m not very web smart so I’m not 100% sure. Any recommendations or advice would be greatly appreciated. Kudos

** เขี่ย ts3 **

on January 31, 2014 at 2:53 AM said:

Hi i am kavin, its my first occasion to commenting anywhere, when i read this piece of writing i thought i could also make comment due to this brilliant paragraph.

** best carry on luggage **

on February 1, 2014 at 12:45 PM said:

This design is steller! You certainly know how to keep a reader entertained. Between your wit and your videos, I was almost moved to start my own blog (well, almost…HaHa!) Great job. I really loved what you had to say, and more than that, how you presented it. Too cool!

** Evelyn **
Unquestionably believe that which you said.

Your favorite justification seemed to be on the web the easiest thing to be aware of.

I say to you, I definitely get irked while people think about worries that they plainly do not know about. You managed to hit the nail upon the top and defined out the whole thing without having side-effects, people can take a signal. Will probably be back to get more.

Thanks

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**facebook app for iphone**

on **February 2, 2014 at 12:39 AM** said:

Hello! Do you know if they make any plugins to protect against hackers? I’m kinda paranoid about losing everything I’ve worked hard on. Any suggestions?

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**how to make money investing**

on **February 2, 2014 at 2:35 AM** said:

Appreciate the recommendation. Will try it out.

---

**making money online marketing**

on **February 2, 2014 at 5:40 AM** said:

First of all I want to say fantastic blog! I had a quick question that I’d like to ask if you don’t mind. I was interested to find out how you center yourself and clear your thoughts before writing. I’ve had a hard time clearing my thoughts in getting my ideas out there. I truly do take pleasure in writing however it just seems like the first 10 to 15 minutes are...
generally lost just trying to figure out how to begin.
Any ideas or tips? Kudos!

German
on February 2, 2014 at 1:05 PM said:

Greetings! Very helpful advice in this particular post!
It’s the little changes that produce the most important changes.
Thanks for sharing!

work from home social work jobs
on February 2, 2014 at 2:16 PM said:

Can I just say what a relief to uncover someone that actually understands what they’re talking about
on the net. You definitely understand how to bring a problem to light and make it important.
More people should read this and understand this side of the story. I was surprised you’re not more popular because you surely have the gift.

akc baton rouge homes for sale kristin cavallari affordable web hosting
bloomingdale news online ryan gosling ftd florists asp web hosting 23isback
netgear subversion dallas homes for sale sports illustrated baton rouge homes
taxact car games sorry atlant
on February 3, 2014 at 12:23 AM said:

This is very interesting, You’re a very skilled blogger. I’ve joined your feed and look forward to seeking more of your great post. Also, I have shared your website in my social networks!
trading signals plus
on February 3, 2014 at 2:28 AM said:

Hi there Dear, are you really visiting this web site daily, if so then you will absolutely obtain nice experience.

Intelligent Federal Search Google Pueblo Colorado Rocker Travel Package Saunas Delaware Hotels Etoys Methotrexate Canyon Lake Texas Language Translation Service Vitamin Shop How To Write A Business Plan Starting Your Own Business Littleton Homes Selma Hot
on February 3, 2014 at 6:16 PM said:

First off I would like to say terrific blog! I had a quick question that I’d like to ask if you don’t mind. I was curious to find out how you center yourself and clear your head prior to writing. I have had a tough time clearing my mind in getting my ideas out there. I do take pleasure in writing however it just seems like the first 10 to 15 minutes tend to be wasted just trying to figure out how to begin. Any ideas or tips? Cheers!

best jig saw
on February 3, 2014 at 7:42 PM said:

What’s up to all, because I am really eager of reading this webpage’s post to be updated daily. It contains nice information.

best rifle scope
on February 3, 2014 at 9:45 PM said:

My partner and I stumbled over here coming from a different page and thought I might as well check things out. I like what I see so now i am following you. Look forward to exploring your web page repeatedly.
vacuum sealer reviews  
on **February 3, 2014 at 10:15 PM** said:

It’s genuinely very difficult in this full of activity life to listen news on TV, so I simply use the web for that reason, and obtain the most recent news.

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infrared grill reviews  
on **February 3, 2014 at 10:38 PM** said:

That is a great tip particularly to those fresh to the blogosphere. Short but very precise info… Appreciate your sharing this one. A must read post!

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best scroll saw  
on **February 3, 2014 at 10:48 PM** said:

That is very fascinating, You’re a very skilled blogger. I’ve joined your rss feed and look ahead to in quest of more of your fantastic post. Additionally, I’ve shared your website in my social networks.

---

best recumbent exercise bike  
on **February 4, 2014 at 12:47 AM** said:

Today, I went to the beach with my kids. I found a sea shell and gave it to my 4 year old daughter and said "You can hear the ocean if you put this to your ear." She placed the shell to her ear and screamed.

There was a hermit crab inside and it pinched her ear. She never wants to go back! LoL I know this is entirely off topic but I had to tell someone!
**best electric kettle**

on **February 4, 2014 at 12:51 AM** said:

Hi there I am so happy I found your weblog, I really found you by accident, while I was looking on Google for something else, Anyhow I am here now and would just like to say many thanks for a remarkable post and a all round entertaining blog (I also love the theme/design), I don’t have time to go through it all at the minute but I have saved it and also added in your RSS feeds, so when I have time I will be back to read much more, Please do keep up the superb work.

**espresso machine reviews**

on **February 4, 2014 at 1:06 AM** said:

Hi my friend! I wish to say that this article is awesome, nice written and come with approximately all vital infos. I’d like to see more posts like this.

**best garment steamer**

on **February 4, 2014 at 1:25 AM** said:

I visited various websites except the audio quality for audio songs present at this web site is really excellent.

**best induction cooktop**

on **February 4, 2014 at 1:31 AM** said:

It’s awesome to pay a quick visit this website and reading the views of all colleagues regarding this paragraph, while I am also keen of getting know-how.
Charolette
on February 4, 2014 at 3:48 AM said:

Very great post. I simply stumbled upon your weblog and wanted to mention that I have truly loved browsing your blog posts. In any case I will be subscribing in your rss feed and I’m hoping you write again very soon!

Jai
on February 4, 2014 at 8:38 AM said:

I constantly emailed this webpage post page to all my friends, because if like to read it next my friends will too.

Money dance
on February 4, 2014 at 3:38 PM said:

Heya this is kind of of off topic but I was wondering if blogs use WYSIWYG editors or if you have to manually code with HTML. I’m starting a blog soon but have no coding know-how so I wanted to get guidance from someone with experience. Any help would be enormously appreciated!

money with melissa francis
on February 4, 2014 at 9:31 PM said:

Magnificent goods from you, man. I have understand your stuff previous to and you’re just extremely wonderful. I actually like what you have acquired here, really like what you’re stating and the way in which you say it. You make it enjoyable and you still care for to keep it sensible. I can not wait to read much more from you. This is actually a tremendous website.
**Tammara**  
on **February 4, 2014 at 11:42 PM** said:

I love your blog.. very nice colors & theme. Did you design this website yourself or did you hire someone to do it for you? Plz respond as I'm looking to construct my own blog and would like to find out where u got this from. many thanks

---

**best vacuum for hardwood floors**  
on **February 5, 2014 at 12:40 AM** said:

That is a good tip particularly to those new to the blogosphere.

Simple but very precise information... Appreciate your sharing this one. A must read post!

---

**money k camp**  
on **February 5, 2014 at 5:21 AM** said:

Everything is very open with a very clear clarification of the challenges. It was definitely informative. Your site is very helpful. Thank you for sharing!

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**Debora**  
on **February 5, 2014 at 9:55 AM** said:

I was pretty pleased to uncover this site. I need to to thank you for your time for this wonderful read!!  
I definitely really liked every part of it and i also have you book marked to see new stuff on your blog.
Aubrey  
on **February 5, 2014 at 2:17 PM** said:

Fine way of describing, and fastidious post to get information regarding my presentation topic, which i am going to present in university.