

## Re: keeping ports open

**Source:** <http://www.derkeiler.com/Newsgroups/microsoft.public.security/2002-11/6566.html>

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**Date:** 11/03/02

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Date: Sun, 3 Nov 2002 07:59:22 -0500

"FA" <[farefin@fastmail.fm](mailto:farefin@fastmail.fm)> wrote in message  
news:484e01c28317\$65f3acf0\$36ef2ecf@tkmsftngxa12...  
> 1. Is there any risk of keeping ports above 1024 open  
> (provided there is no trojan on the computer)?  
>  
> 2. Suppose a port below 1025, say port 23 (telnet) of a  
> user's computer is open, what are the treats the user is  
> exposed to from a hacker?

If a port is open, it means that 1) a software or service is running on your computer [such as the Telnet service] and listening for incoming requests on that port, and 2) you're not using a firewall or your firewall isn't blocking incoming requests.

It's good security to use a firewall and disable all services that you're not planning on using. The firewall should block all ports that you don't plan on using or that are dangerous, both inbound from and outbound to the internet.

Other than that, there's no way to answer your question without knowing which port you're talking about. Different ports have different levels of danger. If you need to keep, say TCP port 23 open, then you usually assess the risk and take additional steps to reduce the risk, such as installing all security patches, allowing that port to be open only from certain approved IP addresses via your firewall, or using VPN or other encryption. The risk of keeping any port open is that any port can be used by a trojan or hacker.

For any computer on the internet, I think you really want to consider following the standard procedures to secure a computer:

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How can I harden my computer or server to secure it from hackers?

A: [Note that if you have already been hacked, this section will not help

you re-secure your computer. In this case, you should first read the section in this FAQ entitled "How can I re-secure my computer or server after being hacked?"]

Here is the short answer:

1. Do not put the computer onto the network or the Internet until after the computer has been hardened using the instructions below [or at least not before a firewall and antivirus have been installed].
2. Use firewall software and hardware and antivirus software that is configured to download updates every day;
3. Follow the instructions for hardening Windows and IIS at [www.microsoft.com/technet/security](http://www.microsoft.com/technet/security) ;
4. Install all service packs and security fixes from Microsoft and otherwise for all Microsoft software on your computer [Windows, IIS, Office, Internet Explorer, Windows Media Player, etc.] from [www.microsoft.com/technet/security](http://www.microsoft.com/technet/security) ;
5. [Ongoing] Download MBSA from [www.microsoft.com/download](http://www.microsoft.com/download) and run it now and also at regular intervals to look for vulnerabilities in your settings, new patches that are missing, etc. Also, check your antivirus to confirm that the last successful update was less than 14 days ago.

These steps will make your computer fairly secure, but may still leave some holes. Keep reading below for additional information you should be aware of:

A successful hacker, virus or worm intrusion into one of your computers can drain your free disk space, slow down your Internet connection, compromise your credit card numbers, damage your personal documents, allow intruders to access other machines on your network that DO contain important files, and/or leave you legally liable for other government or business computers on the Internet that are hacked by an intruder using your computer. This is why you should consider securing ALL the computer systems in your home or network, even if you think there is nothing important on the computer or it is "just a test computer."

All Windows users should seriously consider all of the procedures below to help prevent intrusions on their computers:

1. Do not put the computer onto the network or the Internet until after the computer has been hardened using the instructions below. [Un-secured computers can be hacked in just 15 minutes or less after being put onto the Internet.] Depending on your environment, it may be acceptable to put your computer on the Internet after installing a firewall and antivirus software with the latest updates.
2. Seriously consider enabling or installing firewall software and/or firewall hardware. There are a number of free firewalls available, including the ICF feature that comes with Windows XP [unless XP is joined to a Windows domain], and/or other third-party firewalls available on the Internet.

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For more information on how and where to locate free and not-free firewall software and hardware, see the section in this FAQ entitled "Which firewall should I choose? Which firewall is the best?"

3. Seriously consider installing an antivirus program and configure it to automatically download updates daily.

For more information on where and how to locate and use free and not-free antivirus software, see the sections in this FAQ entitled "Which antivirus should I choose? Which antivirus is the best?" and the section entitled "I think I might have a virus / worm / Trojan."

4. Follow the instructions for hardening Windows 2000 and also IIS [if IIS is installed] at [www.microsoft.com/technet/security](http://www.microsoft.com/technet/security) [For Windows 2000 / NT, hardening IIS usually includes installing IISlockdown including URLScan. For computers with FTP service installed, it usually includes removing the Posix subsystem and removing write permission from the anonymous user account, among other things.]

5. Download and install all the service packs and security patches from [www.microsoft.com/technet/security](http://www.microsoft.com/technet/security) for all the Microsoft and non-Microsoft software installed on your computer, especially Microsoft Windows, Office, Internet Explorer, Outlook Express, Windows Media Player and IIS [if IIS is installed].

Note that Windows 2000, XP, .NET and NT users should also download patches for Indexing Services a.k.a. Index Server. Do not assume that Index Server patches are included with any IIS comprehensive service pack rollup you may already have installed, because they are not.

[If you want a shortcut to do this faster, you could try this:

- \* Download and install the latest Windows service pack from [www.microsoft.com/technet/security](http://www.microsoft.com/technet/security);

- \* Reboot and visit <http://windowsupdate.microsoft.com> to receive additional patches;

- \* Reboot, download and run MBSA [Microsoft Baseline Security Analyzer] or HFNETCHK from [www.microsoft.com/download](http://www.microsoft.com/download) to discover other missing patches;

- \* Manually download from [www.microsoft.com/technet/security](http://www.microsoft.com/technet/security) and install any patches that were found to be missing, as well as patches for any server products that may not be included in Windows Update and MBSA/HFNETCHK, such as possibly SQL Server, ISA Server, etc.

- \* NOTE however that Windows Update, MBSA and HFNETCHK do NOT necessarily list all Microsoft patches or search all Microsoft products, so you could be missing some patches if you rely just on these tools.]

6. [ONGOING] Re-run the MBSA tool from [www.microsoft.com/download](http://www.microsoft.com/download) every 60 days or sooner to look for missing patches, and confirm that your antivirus program received an update in the past 10 days or less.

If you want or need even more security [or are particularly paranoid or at risk], you can consider some of the additional steps below. Some of the

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tools below may be more security than you need, unless you are running a server such as IIS web or FTP services.

\* Download and install MyNetWatchman or Dshield. These are free programs that work with your firewall software or hardware to automatically report hacking attempts to the hacker's ISP. You get to see information about whether that IP address has been used to scan or hack other computers, or whether it might be targeting just your computer. You also get to see whether the ISP has responded or taken action against the offending user. This is highly recommended. You can get this software at one of the links below:

[www.mynetwatchman.com](http://www.mynetwatchman.com)

[www.dshield.org](http://www.dshield.org)

\* Sign up for the Microsoft security mailing list at [www.microsoft.com/technet/security](http://www.microsoft.com/technet/security) to receive emails with a link to new critical security patches as they are released, and install them ASAP.

\* Use Fport or Vision from [www.foundstone.com/knowledge](http://www.foundstone.com/knowledge) or pslist / pstools from [www.sysinternals.com](http://www.sysinternals.com) to look at the open ports on your computer and the program or executable using that port. Some firewall software such as [www.sygate.com](http://www.sygate.com) will also tell you this information.

You can also use the NETSTAT -A command that comes with Windows to look at open ports; however, this will not identify which program is using the port.

[You may want to run a command such as FPORT >> C:\OPENPORTS.TXT or PSLIST >> C:\OPENPORTS.TXT or NETSTAT -A >> C:\OPENPORTS.TXT This command will create a "baseline" text file named c:\openports.txt that can be compared later with the results of the command to tell you whether additional ports are now open, a possible sign of intrusion.]

\* Consider running one or more vulnerability scanners to look for security flaws and configuration errors on your computers. Vulnerability scanners should be run after you have installed and hardened a new computer or server, and also run at regular intervals to confirm that your computers are still secure. You might also run a port scanner against your computers as well to look for open ports.

See the section in this FAQ entitled "How can I scan my computer or firewall to look for open ports or confirm that my machine is secure?" for more information.

\* Consider searching for and following additional checklists for hardening Windows 2000 by searching an Internet search engine such as [www.google.com](http://www.google.com) for words such as "harden OR hardening windows-2000" [e.g. [www.google.com/search?q=harden+OR+hardening+windows-2000](http://www.google.com/search?q=harden+OR+hardening+windows-2000) ]. Several such checklists are available at <http://nsa1.www.conxion.com/win2k/download.htm> a.k.a. <http://www.nsa.gov>, as well as [www.labmice.net/security](http://www.labmice.net/security), <http://rr.sans.org>, etc.

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\* Uninstall any unnecessary Windows components [e.g. click on Start, Settings, Control Panel, Add/Remove Programs, Add/Remove Windows Components]. Pay particular attention to Indexing Service, Internet Information Services (IIS), Management and Monitoring Tools, Message Queuing Services, Networking Services, Other Networking File and Print Services, Outlook Express, and Windows Media Player. If you are not sure whether something is unnecessary, try searching [www.google.com](http://www.google.com) or posting a question to the appropriate Microsoft security newsgroup.

\* Disable any unnecessary Windows services [e.g. click on Start, Settings, Control Panel, Administrative Tools, Services]. If you are not sure whether something is unnecessary, try searching [www.google.com](http://www.google.com) or posting a question to the appropriate Microsoft security newsgroup.

\* Consider using a Trojan scanner. Antivirus programs generally detect some but not all of the most common Trojans and hacker tools. Some people choose to use a Trojan scanner in addition to antivirus.

For more information on where and how to locate and use free and not-free Trojan scanner software, see the section in this FAQ entitled "Which antivirus should I choose? Which antivirus is the best?"

\* Enable logging. Most logging is disabled by default, and usually this is not discovered until after an intrusion, when the logs are needed.

Enable logging of your IIS web server, FTP server, etc. For sites with a small number of hits, consider changing logs to rotate monthly instead of daily to allow easier searching of logs.

Enable logging on your Internet router, switch or firewall. [Because these devices usually do not have much storage space for saving logs, doing this may involve installing free syslog software onto your computer to be able to capture the logs.]

Enable auditing of security events on your Windows system, including logon successes and/or failures and NTFS auditing of files and registry keys. For more information, see the section in this FAQ entitled "How can I enable auditing / logging on my computer / server?"

Change the Windows event log settings to be appropriate for your environment. Consider increasing the maximum log size to retain more information. Be careful not to log too much, or you might find that your logs contain only a few minutes or hours worth of data.

Check the logs to be sure logs are really being captured.

\* Consider using a file change checker, such as the unsupported free tool Languard File Integrity Checker at [www.gfi.com/languard/lantools-fic.htm](http://www.gfi.com/languard/lantools-fic.htm). Files changing on your system can sometimes indicate a hacker intrusion.

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\* Consider using a Windows event log monitor. Some types of intrusions leave entries in one of the logs on your computer. [On an especially vulnerable or secure system, you should be sure that you've configured logging to detect events such as intrusions.] Some network monitors such as [www.ipsentry.com](http://www.ipsentry.com) can send a message to your email/screen/pager if a server or service stops responding, an event or error appears in a Windows log, etc. Windows log monitors can be found by searching an Internet search engine or your favorite software web site, or by using the links below:

[www.ipsentry.com](http://www.ipsentry.com) [around \$100 US]  
[www.sunbelt-software.com](http://www.sunbelt-software.com)  
[www.webattack.com](http://www.webattack.com)  
[www.wilders.org](http://www.wilders.org)  
[www.download.com](http://www.download.com)  
[www.tucows.com](http://www.tucows.com)  
[www.google.com/search?q=windows+event+log+monitor](http://www.google.com/search?q=windows+event+log+monitor)

\* Consider using EFS file encryption [under Windows 2000 / XP / .NET] or third-party utilities to encrypt the files on your computer may be something to consider. Some of these utilities can encrypt your entire hard drive including Windows, whereas other tools just encrypt some of your data files and are not suitable for encrypting or preventing access to Windows.

Note that using any form of encryption can slow down your computer's performance. Also, you must be extremely careful to back up and protect your encryption key and any passwords. If the encryption keys are not backed up, users can lose their encrypted files forever when Windows is reinstalled, Windows encounters a problem so that Windows no longer starts up, etc.

For more information on EFS file encryption on Windows 2000 / XP / .NET, see the section in this FAQ entitled "I used Windows 2000 / XP EFS file encryption to encrypt some files. Now, I can't read the files. How can I unencrypt them or recover the key?"

Third party encryption software can be found at the following locations:

[www.pgp.com](http://www.pgp.com)  
[www.scramdisk.clara.net](http://www.scramdisk.clara.net)  
[www.e4m.net](http://www.e4m.net)  
[www.jetico.com](http://www.jetico.com) ["BestCrypt"]  
[www.download.com](http://www.download.com)  
[www.tucows.com](http://www.tucows.com)  
[www.google.com](http://www.google.com)

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Which firewall should I choose? Which firewall is the best?

A: The answer to this question varies depending on your computer systems, your security requirements and your personal preferences. Below are some firewalls and other forms of firewall-like packet filtering:

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**NO MATTER WHICH FIREWALL YOU CHOOSE...**

No matter which firewall you choose, you should seriously consider downloading and installing MyNetWatchman or Dshield. These are free programs that work with your firewall software or hardware to automatically report hacking attempts to the hacker's ISP. You get to see information about whether that IP address has been used to scan or hack other computers, or whether it might be targeting just your computer. You also get to see whether the ISP has responded or taken action against the offending user. You can get this software at one of the links below:

[www.mynetwatchman.com](http://www.mynetwatchman.com)  
[www.dshield.org](http://www.dshield.org)

Also, no matter which firewall you choose, the lists below of port numbers for common software services may be helpful when configuring your firewall or when trying to monitor the firewall logs for signs of intrusion:

[www.iana.org/assignments/port-numbers](http://www.iana.org/assignments/port-numbers)  
[www.iisfaq.com/default.asp?View=P106](http://www.iisfaq.com/default.asp?View=P106)

**FIREWALL SOFTWARE:**

[www.sygate.com](http://www.sygate.com) [free for non-commercial use, also works like a sniffer]  
[www.kerio.com](http://www.kerio.com) [free for non-commercial use]  
[www.agnitum.com](http://www.agnitum.com) [free for non-commercial use]  
[www.zonealarm.com](http://www.zonealarm.com) [free for non-commercial use, also blocks pop-ups]  
[www.iss.net](http://www.iss.net) [Black Ice]  
[www.symantec.com](http://www.symantec.com) [Norton]  
[www.webattack.com](http://www.webattack.com)  
[www.download.com](http://www.download.com)  
[www.tucows.com](http://www.tucows.com)  
[Windows XP users can also consider using the ICF firewall that comes with XP, more info below]

**FIREWALL DEVICES [HOME / SOHO]:**

[www.linksys.com](http://www.linksys.com) [starts around \$70 US]  
[www.netgear.com](http://www.netgear.com) [starts around \$70 US]  
<http://search.ebay.com/search/search.dll?query=firewall> [prices on new and used firewalls]

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Which antivirus should I choose?

Which antivirus software is best for you will vary depending on your computer systems, your security requirements and your personal preferences.

Antivirus programs may be purchased from Internet web sites, from your local computer store, and even from stores like Target and Wal-Mart. Antivirus software can be found using the links below:

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www.symantec.com [Norton Antivirus]  
www.grisoft.com [AVG Antivirus [including a free version]]  
www.f-prot.com/products [free DOS version]  
www.f-secure.com [F-Secure]  
www.trendmicro.com [Trend Micro]  
www.wilders.org  
www.download.com  
www.tucows.com

[Most of the antivirus products will also work on Windows Server products or have a version for Windows Server.]

There are also a number of web sites that will scan your computer for viruses for free. However, using these web sites will do nothing to protect you against future re-infection and damage to your computer files. Some of these web sites include:

<http://security2.norton.com> [Norton free one-time web-based scanner]  
<http://housecall.antivirus.com> [Trend Micro free one-time web-based scanner]

Just running an antivirus program is not enough. You should make sure that your antivirus program can be configured to download updates every day [or every week] automatically via the Internet, and open the program from time to time to ensure that it is still receiving updates.