

LAN Speed Test (Lite)

Table of contents

LAN Speed Test Overview	3
What's New	3
F.A.Q.	5
Instructions	6
Getting Started	6
Folder or Server IP	6
LST Server Option	7
Print	7
(?)Results	8
Screen Magnification	8
Errors	9
End User License Agreement	9

LAN Speed Test Overview

LAN Speed Test (Lite) was designed from the ground up to be a simple but powerful tool for measuring file transfer, hard drive, USB Drive, and Local Area Network (LAN) speeds (wired & wireless). It does this by building a file in memory, then transfers it both ways (without effects of windows file caching) while keeping track of the time, and then does the calculations for you. Simple concept and easy to use. You'll find that LAN Speed Test will quickly become one of your favorite network tools!

Some of LAN Speed Test features include...

- Completely portable - No installation needed
- Compatible With all Windows versions 2000 & up (2000, XP, Vista, Win7, Server2003 & Server 2008)
- New! Now available for Mac users and soon Linux users
- Incredibly small (120KB Windows, 370KB Mac) and can run from a hard drive, USB Flash drives, etc.
- Very fast! Most tests are less than 1 minute
- Simple concept and easy to use
- This version is completely free. No nag screens, time limitations, etc.
- New! Ability to choose Network Interface Card for computers with multiple NICs
- New! Log window
- New! Cancel tests anytime throughout the process just by hitting <ESC>
- Unlimited test packet sizes while taking a maximum of just 10 MB of RAM on your system
- Test packet sizes up to 9 GB while taking a maximum of just 10 MB of RAM on your system
- Can be used with LST Server for a more accurate 'True' network speed without hard drive limitations - Even test WAN (internet) speed with LST Server
- And much more!

What's New

LAN Speed Test (Lite) (A=Added, B=Bug Fix, C=Change)

1.3.2 (08/19/15) - Eleventh Public Release - Third Mac Release

C - The test packets now consists of random charaters instead of just '!'. Some systems would compress repeated characters causing skewed results.

1.3.1 (08/14/13) - Tenth Public Release - Second Mac Release

B - Sometimes LAN Speed Test was not recognizing a network adapter. The IP address was showing up as 127.0.0.1 instead of the real IP address. Network tests would not function.

1.3.0 (07/02/13) - Ninth Public Release - First Mac Release

C - Re-write code in new compiler. This allows for 32 bit and 64 bit Windows, Mac, & Linux executables
 A - Ability to choose Network Interface Card for computers with multiple NICs (when testing to LST Server only)

A - Screen Magnification options to make the program window larger on high resolution monitors (via command line /MS0 - /MS9)

C - Optimized testing routines

A - Log Window - Behind the scenes info for easier troubleshooting, logging, etc.

A - Ability to hit <ESC> anytime to cancel the current test

C - Better High DPI support for Windows 7 & 8 and Mac

C - Help updated with formatted display

1.2.0 (09/11/12) - Eighth Public Release

- C - Changed name to LAN Speed Test (Lite)
- C - Fixed the timeout issues with slower WAN connections. Timeout occurred if a packet took longer than 5 seconds to send/receive. The new logic allows up to 60 seconds.
- A - Code Signing Certificate
- A - High DPI aware in Windows 7
- B - Fixed minor display issues in Windows 7
- A - 'Check for update' link on help screen
- C - Minor bug fixes and internal updates

1.1.7 (09/22/11) - Seventh Public Release

- A - HUGE!! LAN Speed Test now builds the large test files on the fly in 1 MB chunks instead of the whole thing at once. Now you can test with an unlimited sized test packet and LAN Speed Test will still only take a maximum of 10 MB of your RAM! This works when testing to a shared folder or to the LST Server.
- C - All results are now correctly displayed as decimal instead of binary (i.e. 1 MB = 1,000,000 instead of 1,048,576)
- A - Current MB being written or read is displayed in status box
- C - Minor bug fixes and internal updates
- C - Help file updated

1.1.6 (6/25/11) - Sixth Public Release

This version fixes all known timer issues!

- C - New high precision Timer routine - no longer dependent on LAN Speed Test calculating the processor speed. This was causing some issues in very rare situations
- A - Automatically downgrades to the standard Timer if your hardware does not support the high precision Timer (Most do)
- A - Added /D Command Line option for debug information
- A - Tips ('What do my results mean?') added to printer page
- A - Added some more help information (FAQ, Errors, etc.)

1.1.5 (01/23/11) - Fifth Public Release

- A - Added more advanced help & EULA
- A - Added more options for 'Folder or Server IP:' i.e. \\192.168.30.201\files (See help for details)
- A - More communication options added with LST Server allowing for better logging, etc. on the server end (requires LST Server v.1.1 or greater)

1.1.4 (1/03/11) - Released as part of Calc4all

- C - Changed default test file size from 100 MB to 20 MB
- A - Add some details to error messages
- B - Minor bug fixes
- C - Code cleaned and optimized for even smaller/faster executable

1.1.3 (10/1/10) - Fourth Public Release

- A - Added support for LST Server
- A - Help screen added
- A - Enhanced the timer resolution (same as v2.03)
- A - Miscellaneous UI improvements

1.1.1 (7/12/10) - Third Public Release

- B - On very fast file transfer rates, bit calculations were so high that the results went into scientific mode and would show negative (Thanks John!)

1.1.0 (7/16/09) - Second Public Release

- A - Added option to keep the file created on the destination
- B - Fix font issue when printing
- B - Other minor fixes

VERSION - 1.0 (1/15/09) - (First Public Release)

F.A.Q.

LAN Speed Test FAQ

What is 'Write Speed'?

This is the 'Upload' speed writing to your server or shared folder.

What is 'Read Speed'?

This is the 'Download' speed reading from your server or shared folder.

What is the time measurement in the box 'Time to Complete:'?

Time is all represented in seconds. Now, keep in mind that the timer only times actual data transfer relevant to the speed test. It shuts off while the client and server are talking to each other giving commands, etc. It also shuts off while updating the screen, during time slicing, etc.

Why are my write speeds faster than my read speeds?

The write speed can be faster because your drives are caching the writes. That means that we are writing to the memory on the drive, and then the drive takes it from the memory and places in on the hard drive. The drive tells LAN Speed Test that the file is done transferring after the test packet is written to the cache memory - not the hard drive. Since the cache memory is lots faster than the hard drive the results for writing are faster than the reading. When reading the data back from the hard drive, the data has to actually come from the hard drive. In other words, what the results are really displaying here is the real read speed from the drive, but the transfer speed from the host computer to the hard drive cache memory on the write. To change your write cache settings, go to your device manager, find your drive, right click and choose properties, and go to the 'Policies' tab.

When I test, why I am getting 'Connection to LST Server Failed'?

This error means that LAN Speed Test client can't find LST Server at the IP address you entered. Unless you are using LST Server, you need to put in the shared folder that you want to test to instead of the ip address of the LST Server. Just press the [...] button (next to 'Folder or Server IP'), select the shared folder, and run the test. You should see the right results now!

Why does my test not finish correctly or take long pauses?

This is usually caused by certain anti-virus engines or software firewalls. Try disabling the anti-virus software and firewall temporarily for testing. You may be surprised how much your anti-virus/firewall software can affect your network speeds.

I have two network adapters; can I select which one to use?

When using LST Server, it's simple...Just select your NIC under 'Listening NIC + Port' and click on 'Reset Server'. For LAN Speed Test, however, Windows does not give us an easy way to manually choose which NIC to use as a client. Windows tries to figure out which NIC is performing the best and then chooses that one to route IP traffic. With that being said, I know of two different ways we can get around that...The first option (the easiest, but probably least desirable), is to first disable the NIC that you don't want to use, and then run LAN Speed Test. The second option, is to go into your LAN NIC settings, Select 'Internet Protocol (TCP/IP)', select properties, select advanced, uncheck automatic metric, and adjust accordingly as suggested in this article... <http://support.microsoft.com/kb/299540>.

UPDATE - New! With LAN Speed Test (Lite) v1.3 it's as simple as selecting the correct NIC from the dropdown box (when testing to LST Server only - when testing to a shared folder, LAN Speed Test uses the higher priority NIC). LAN Speed Test (v3) will have this ability with the next update

Please click on the F.A.Q. web link above for more of the latest frequently asked questions.

Instructions

Getting Started

Getting Started

LAN Speed Test (Lite) basically builds a file, transfers it both ways (either across your network or to a local drive), keeps track of the time it takes, and does the calculations for you. Here is a little more detail...

1. Build the test packet file (the size you choose) in memory and on the fly (in 1 MB chunks).
2. Start the Write Timer
3. Write the file to the location you choose (this can be another drive, network url, or the IP address of the LST Server)
4. Stop the Write Timer and do necessary write calculations
5. Clear out the file cache (so that reading will be accurate without having to re-start the computer)
6. Start the Read Timer
7. Reads back (to memory) the file that had been transferred
8. Stop the Read Timer and do necessary read calculations
9. Fill in all result fields
10. Delete the file from the network folder if not using LST Server

Note. If testing with LST Server there is no file saved to any hard drive. The Client talks directly to the Server through the network with no hard drive limitations. This gives more accurate results of true network performance. LST Server also makes it possible to test your WAN (internet) connection! LST Server is an add-on available at <http://www.totusoft.com>

Tip... Most network speeds are specified in Mbps - that is Mega bits per second. Don't get this confused with MBps (Mega bytes per second) as it takes 8 bits to make a byte. For example: A 100 Meg network card has a theoretical rate of 100 Mbps (Mega bits per second). A 1 Gig network card is 1000 Mbps. Again, these are theoretical. Real world speeds (speed displayed in results) with protocol overhead, network switches, hard drives, etc. could be 50 % of theoretical speeds or less.

LAN Speed Test is totally portable. It can be run on any computer from the network share drive, a USB Drive, it's own hard drive, etc.

Folder or Server IP

Folder or Server IP:

There are a variety of ways to tell LAN Speed Test where you want to test and this is the place to do that.

If testing without LST Server, then you enter the location of the shared folder to test to. The easiest way to do this is by clicking on the '...' button and finding the shared folder from there. You must have read/write access to this shared folder. You can also enter the info manually or select a recently entered folder from the drop down box.

Here are some examples...

- > N: (Root folder of your mapped drive)
- > N:\Files (Shared folder 'Files' of your mapped drive)
- > U: (Root folder of your USB drive to check the speed of that drive)
- > \\Server\Files (Shared folder 'Files' on computer named 'Server')
- > \\192.168.0.1\Files (Shared folder 'Files' on computer at IP address 192.168.0.1)

If testing with LST Server, then you enter the location of the computer running LST Server.

Here are some examples...

- > 192.168.0.1 (LST Server is on computer at this IP address)
- > 192.168.0.1:1234 (LST Server is on computer at this IP address listening on port 1234)
- > server.totusoft.com (LST Server is on computer with this DNS Name)
- > http://server.totusoft.com (Same as above)
- > server (LST Server is on computer with this name)

LST Server Option

LST Server Option

LST Server is an add-on available at <http://www.totusoft.com>.

Do I need LST Server to use LAN Speed Test?

Absolutely not. Using LAN Speed Test with LST Server writes the test file to the server's memory and takes the hard drive out of the picture for more true network speed results. Using LAN Speed Test without LST Server, writes the test file to another computer's hard drive. Tests will show slower speeds, but is more of a 'real-world' test as most of the time you are writing files to other hard drives (file servers, etc.).

First, run LST Server on the computer (Server) you wish to test your computer (Client) with. Next, on the Client, run LAN Speed Test (this program), type in the ip address or computer name of the server in 'Folder or Server IP' (the server's ip address is shown under 'Server Status' in the LST Server program). Now when you run the test, the file is being sent to (and read from) the LST Server's memory instead of another computer's hard drive. This takes the slowest device of the network out of the picture for more 'True' network speed accuracy! In my tests using LST Server, I am seeing network speeds of 700 - 800 Mbps on my 1000 Mbps network compared to 300 - 400 Mbps when testing to the same computer's hard drive!

LST Server uses port 4456 by default. If it is necessary to change ports, first change ports on the LST Server (instructions are in that program), then add the port # to the ip address with a colon. i.e.
192.168.0.1:4457

Also, with this feature, it is now possible to test computers over a WAN (internet) connection to get your internet speed! LST Server uses port 4456 by default. Your router (on the network where LST Server is running) needs to forward the port to the computer's IP address that is running LST Server. Then on the client, you enter the WAN IP address of LST Server. Further instructions for testing your internet speed is beyond the scope of this help file. Go to our website for more information.

Print

Print

Prints results to your printer for a hard copy. Some helpful information is also printed below the results.

(?)Results

What do my results mean?

When assessing the performance of your network, keep in mind that there is always a difference between theoretical speed ratings, and 'real-world' throughput. If your network is set up well, then this difference is relatively small but still significant. Otherwise, the difference can be extremely large.

Typical Results without LST Server

Network connected at...

- 100Mbps -> 50-70 Mbps
- 1000 Mps (gigabit) -> 400-600 Mbps
- 802.11b (11 Mbps wireless) -> 2-4 Mbps
- 802.11g (54 Mbps wireless) -> 20-30 Mbps

Typical Results with LST Server

Network connected at...

- 100Mbps -> 60-80 Mbps
- 1000 Mps (gigabit) -> 600-800 Mbps
- 802.11b (11 Mbps wireless) -> 4-6 Mbps
- 802.11g (54 Mbps wireless) -> 30-50 Mbps

The reasons for the difference between what a network is supposed to be able to do and what it can actually do are many.

First, there is normal network overhead. This is the data that is used to package and address the data, deal with data collisions, etc. There is even more network overhead on wireless networks.

Second, there are external performance limiters. These are your hardware devices on your network (network cards, hubs, switches, other users on the network, server hard drives, etc.)

Third, are the network configuration problems. This is anything from a bad cable, bad hardware device, etc.

LAN Speed test is an excellent tool to use when troubleshooting or optimizing your network by making it easy to test your 'Real World' network speeds. A good rule of thumb I follow is 'real-world' speed of 50% - 70% of your rated speed. On larger networks with more users, your speed can drop considerably, so you should be doing your tests when network traffic is low.

Screen Magnification

Magnification Options

LAN Speed Test (Lite) should default to the correct size for your Operating System, DPI Settings, and screen resolution automatically, but now you have the option to manually adjust the window size of LAN Speed Test to display perfectly for any monitor and resolution.

Simply start LAN Speed Test from the command line with '/SM0 - /SM9' options

- /SM0 = Window at 90% of original size
- /SM1 = Window at 100% of original size
- /SM2 = Window at 110% of original size
- /SM3 = Window at 120% of original size
- /SM4 = Window at 130% of original size

/SM5 = Window at 140% of original size
/SM6 = Window at 150% of original size
/SM7 = Window at 160% of original size
/SM8 = Window at 170% of original size
/SM9 = Window at 180% of original size

Examples...

LAN_SpeedTest /SM3
 Opens LAN Speed Test window at 120%

Errors

Errors

The most common error is trying to test a folder that you do not have write permissions for (ie. Error creating test file...). Either changing permissions or choosing another folder is required. Be aware that there are certain folders that windows 7 won't let you create new files in (ie. c:\ or c:\program files) - even with admin rights.

Another error that is commonly seen is 'The Folder xxxx is not writable...If you want your settings saved you must have read/write access to this folder.' LAN Speed Test checks to make sure the LST_Settings.ini file (contains settings & registration info) is writeable (unless started in Command Line Mode). If it is not, you get this warning letting you know that settings will not be able to be saved.

Another common error is 'Connection to LST Server Failed'. This usually means one of the following:

- 1) You have a firewall blocking the port of LST Server. Open port 4456 (or your custom LST Server port) on your LST Server's firewall
- 2) You have the incorrect ip address or port # of the computer running LST Server. Double check your IP address and port # of LST Server (shown on LST Server's screen) and correct on LAN Speed Test.
- 3) LST Server is not running on the computer to be tested with. If you do not have LST Server, what you want to do is click on the [...] button and select a shared folder from the server to test with. Now the 'Folder or Server IP:' box should contain something like 'F:\Public Files'
- 4) LAN Speed Test starts testing, but then pauses or does not finish correctly. This is usually caused by certain anti-virus engines. Try disabling the anti-virus software temporarily for testing. There are many anti-virus engines that affect your network speed considerably.

End User License Agreement

End-User License Agreement

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