

LAN Speed Test (version 4)

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LAN Speed Test Overview

LAN Speed Test 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/Mac 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 4 features include...

- Test the speed of your Local Network by testing to/from network shared folders
- Test the speed of your local drives (USB Drives, hard drives, etc.)
- Compatible with LST Server (v1.5 or later) for real network performance results without hard drive limitations – Even test your WAN (Internet) speed with LST Server
- Very fast! Most tests are less than 1 minute
- Completely Portable - No installation needed
- Can be run from a hard drive, USB Flash drives, Network Share, etc.
- Compatible with Windows 7 or later and Windows Server 2008 or later
- Compatible with Mac 10.7.5 (Lion) or later
- LAN Speed Test and LAN Speed Test (Lite) are now the same download
- Packets up to 9 GB in size and up to 1000 packets *
- Chunk size adjustable up to 1 MB (for advanced testers)
- View results by Average, Maximum, and Minimum throughputs *
- Progress bar and cancel button allowing user to cancel at any time
- Ability to choose Network Interface Card for computers with multiple NICs
- Ability to view each packet's results in a chart or by details *
- Ability to view results as Gbps, Mbps, Kbps, GBps, MBps, or KBps *
- Email results manually, automatically, or only when under a certain speed *
- Log results to .csv file with user configurable file location. All entries are SQL compatible for easy importing into SQL Server, MySql, etc.) *
- Option to log Avg, Max, & Min automatically *
- View/Edit Log built right into LAN Speed Test *
- Network Scan (see other devices on your network, keep notes about them, etc.) *
- Run multiple tests automatically - any number of tests from 1 sec to 24 hrs apart *
- Open/Save all options and results to .csv file
- Command Line Mode - All testing options available from command line *
- Command Line Builder (automatically builds the command line options that you need based on your current settings) *

** Indicates a feature that is available after registering LAN Speed Test*

What's new

LAN Speed Test History

** Indicates a feature that is available after registering LAN Speed Test*

4.2 (8/30/18)

- Fix: When testing in 'Silent' mode, LAN Speed Test could get stuck on startup and never finish the test, or error after a long period of time.
- Update: Other bug fixes and internal updates

4.1 (2/10/18)

- Fix: Windows - Registration screen - cursor would stay on the left side of key text box
- Fix: Mac - Registration screen - paste from keyboard would not work
- Fix; Command Line Generator misspelled /Silent-True
- Fix: When performing a large test, and user decides to cancel, it looked like everything canceled correctly, but process could continue to run the test in the background

- Fix: Windows - When testing over 4 GB (5 GB packets, 10 Packets of 500 MB, etc.), data size displayed incorrectly and results were incorrect
- Fix: Mac - When testing to smb:// instead of to a mounted folder, LST would crash
- Update: Registration screen - strip out spaces, line feeds, etc. that could make registering difficult when using copy / paste
- Update: Add more information if registration does not work:
- Update: Don't show as much fraction in results
- Update: Add option to change the way packets are recreated after the 1st one (open and overwrite file or re-create file). Some NAS's test better one way over the other. If the NAS that you are testing to is slower after the 1st packet, change this option.
- Update: Windows - faster User interface
- Update: Other bug fixes and internal updates

4.0 (11/12/17)

- New! Now available for Mac (and Windows) users
- New! LAN Speed Test and LAN Speed Test (Lite) are now the same application/download
- New! Ability to choose Network Interface Card for computers with multiple NICs
- New! Ability to view each packet's results in a chart or by details *
- New! Random packet sizes between Min and Max setpoints *
- New! Test packets are built on the fly using random text (no more compression issues)
- New! Multi-User prefs file - Test settings can be shared or specific by MAC address *
- New! Option added to test for a number of seconds (creates packet sizes automatically)
- New! Option to test only one direction (ie. only write test to shared folder)
- New! Email options now support new mail server requirements (Outlook.com, Gmail, etc.) *
- New! Command Line Builder (automatically builds the command line options that you need based on your current settings *)
- New! Completely rebuilt user friendly modern interface
- New! High DPI support - extra crisp text and graphics for MS Surface Pros, 4K, 5K, & Retina displays
- New! Click & drag to resize LAN Speed Test windows (very helpful when viewing log, etc.)
- New! Mac OS release is 64 bit
- New! Optional Windows 64 bit build available
- New! Mac OS & Windows versions can now utilize multi-core processors
- Updated: Progress bar and cancel button allowing user to cancel at any time
- Updated: Up to 1000 packets *
- Updated: Viewing results by Average, Maximum, and Minimum throughputs *
- Updated: Log results to .csv file with user configurable file location. All entries are SQL compatible for easy importing into SQL Server, MySQL, etc.) *
- Updated: Option to log Avg, Max, & Min automatically *
- Updated: View/Edit Log built right into LAN Speed Test *
- Updated: Network Scan (see other devices on your network, keep notes about them, etc.) *
- Updated: Run multiple tests automatically - any number of tests from 1 sec to 24 hrs apart *
- Updated: Open/Save all options and results to .csv file *
- Update: Binary and Decimal mode display correctly (ie. 1 MB or 1 MiB, etc.) *

F.A.Q.

LAN Speed Test FAQ

I've registered LAN Speed Test, where is my registration information?

After registering your software, our website sends out the registration information immediately to the email address you used with paypal. If this is different than your normal email address, then make sure you check in with PayPal. Also, some anti-spam engines are a little too aggressive, make sure you check your spam or junk folder. It's possible that the registration email got hung up in a SPAM filter somewhere along the way and never made it to your email account. Just go to <http://www.totusoft.com/lostregistration> and select 'Email from secondary account' to email the registration from a different account. .

I've lost my license, what are my options?

Just go to <http://www.totusoft.com/lostregistration>, enter your email address, and press the 'Email Registration' button. Our system will email you your registration immediately. If you need to change your registered email address, just select 'Contact Us' or send us an email to support@totusoft.com with either your name or old email address and new email address.

Why don't you offer a 30 day trial on LAN Speed Test?

LAN Speed Test is portable and does not keep any hidden registry entries, etc. that most time trial software uses. Instead, LAN Speed Test starts out in (Lite) mode which is completely free with no time limitations, etc. When you're ready for the extra features that the full version of LAN Speed Test has, you can purchase your registration and simply enter your serial number and software key without installing new software.

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 will often cache part of the writes. That means that we are writing to the memory on the drive while 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 last of the test packet is written to the cache memory - not necessarily to 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.

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?

Now you can starting with version 4.0. Just select the correct NIC by choosing it's MAC address. When you choose a different MAC address from the drop-down selection, LAN Speed Test will display the IP address for you. All tests will now use the network connection from that NIC.

Is it possible to run LAN Speed Test with Command Line Parameters?

Yes, you can with LAN Speed Test v2.0 & above. Starting with v4.0 LAN Speed Test creates the command line needed for your tests automatically, and you have all the options available from the command line as you do from starting the test manually.

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

Tips

When testing to local drives, USB Flash Drives, etc.

The write speeds can be skewed when using small packet sizes (ie. 1 MB) when testing to fast drives, network shared drives, etc. If you are seeing write speeds way higher than read speeds, use larger packet sizes. This should even out the results and give you actual drive speeds.

Make sure to select the correct Network Interface

If your computer has more than one network connection (ie. wired and WiFi, etc.), make sure to choose the correct interface by selecting the correct MAC address (from the MAC: dropdown). When you change MAC addresses, your IP address will change to the address attached to that connection.

This lets you choose which live connection to test with on the fly. For example, if your laptop is connected to your network with both a wired connection and a WiFi connection, you can do one test with your wired network, then select the other MAC address from the drop-down, and test your WiFi network.

Instructions

Getting Started

LAN Speed Test displays your Computer Name, IP address, and MAC address automatically. If this is the first time using LAN Speed Test then you will need to select the network folder you want to test the write and read speeds from (or the IP address of the computer running LST Server) as well as the number of test packets (number of times to repeat the process). Make sure 'Log Results' is checked if you want to log your results.

LAN Speed Test basically builds a file, transfers it both ways, 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 (variable sized chunks up to 1 MB in size).
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. Continue the writing process for the number of times entered in 'Number of Test Packets'
6. Clears Out the Windows/Mac File Cache (so that reading will be accurate without having to re-start the computer)
7. Start the Read Timer
8. Reads back (to memory) the file that had been transferred
9. Stop the Read Timer and do necessary read calculations
10. Continue the reading process the number of times entered in the 'Number of Test Packets'
11. Fill in all result fields
12. 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.

Home (Tab)

MAC:

The MAC drop-down box contains all the Network Interface Cards (NIC) available to your computer. To test with a network connection on a different NIC when testing to LAN Speed Test Server, just pick a new NIC using this MAC drop-down until the IP address matches the network that you want to test from.

Also, you may have a network connection available to your computer through a wired and wireless interface. Make sure that you have the correct MAC address selected so you are testing with the desired connection.

* When testing to a shared folder, it does not matter which NIC is selected. Your Operating System will automatically choose the best connection to run the test. We can only choose which NIC to test with when testing to LAN Speed Test Server.

Testing to LAN Speed Test Server

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

Do I need LST Server to use LAN Speed Test?

Using LAN Speed Test without the additional LST Server, writes the test file to another computer's hard drive. Network tests will be limited to drive speeds, caches, etc. This can be the performance test that you want to see as most of the time you are writing files to other hard drives (file servers, etc.).

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. This will give your network's true performance. LST Server can be installed on any computer in your network (it is not limited to just a server). Testing to LST Server also gives you control over which network interface to test with.

How do I use LST Server with LAN Speed Test?

First, run LST Server on the computer that you wish to test your computer (Client) with. Next, on the Client, run LAN Speed Test (this program), make sure that 'Testing to LAN Speed Test Server' is checked, type in the ip address or computer name of the server in LST Server IP' (the server's ip address is shown under 'Server Status' in the LST Server program), and make sure that the correct Network Interface is selected. 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 800 - 900 Mbps on my 1000 Mbps network compared to 400 - 600 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 change the 'TCP Port' (just above the 'LST server IP:' option) with the correct Port number.

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. Further instructions for testing your internet speed is beyond the scope of this help file. Go to our website for more information.

Test Write / Test Read

When testing to a shared folder, you can now perform just a write test and skip the read test if desired.

When testing to LAN Speed Test Server, you've got the option to perform just a write test, just a read test, or both

Folder

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 Windows 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)

Here are some Mac examples...

- > /Volumes/Files (Shared folder 'Files')
- > /Volumes/Public (Shared folder 'Public')
- > /Volumes/Samsung USB/LAN Speed Test (USB Flash Drive)

LST 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 with LST Server, then you enter the location (ip address or computer name) of the computer running LST Server. When LST Server 4.0 is released, LAN Speed Test will be able to find LST Server automatically by clicking on the '...' button.

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)

Remember, the server's ip address is displayed on LST Server's main screen.

Packet Size Min / Max

This changes the size of the test packet that is sent to the server or the test file sent to the server's shared folder. 1 MB is a good size test packet to start with. You can adjust this up or down to fine tune the testing with your network (on slower wireless networks, you may need to make this 500 KB or less for the test to complete with LST Server). This packet/file is then sent and received the number of times in 'Packets (1-1000):'.

Packet Sizes can vary in size during the test. If you check the 'Vary Packet Sizes' option, LAN Speed Test will pick random packet sizes between the minimum and maximum sizes during the test. For example, if 'Packet Size (min):' is set for 1 MB and 'Packet Size (max):' is set for 10 MB, and 'Packets (1-1000)' is set to 10, then LAN Speed Test will send and receive 10 packets that will vary in size between 1 MB and 10 MB during that test.

If you drag the slider all the way to the bottom, it puts the packet size in 'Auto' mode, and will automatically calculate the correct packet size to test for the number of seconds entered into 'Seconds (1-3600):' when running a test.

Packets (1-1000)

Number of packets to test successively (one after the other). Results are displayed and logged as average, maximum, or minimum throughput for all packets tested. Also, all packet results can be viewed when in the chart or details tab.

** This feature is available after registering LAN Speed Test*

Seconds (1-3600)

If you drag the slider all the way to the left (bottom), it puts the packet size in 'Auto' mode. At the beginning of your speed test, LAN Speed Test will do a quick test, and will calculate (as best as it can) the correct packet size to test for the number of seconds entered into 'Seconds (1-3600):'.

Vary Packet Size

Packet Sizes can vary in size during the test. If you check the 'Vary Packet Sizes' option, LAN Speed Test will pick random packet sizes between the minimum and maximum sizes during the test. For example, if 'Packet Size (min);' is set from 1 MB and 'Packet Size (max);' is set for 10 MB, and 'Packets (1-1000)' is set to 10, then LAN Speed Test will send and receive 10 packets that will vary in size between 1 MB and 10 MB during that test.

Log Notes

Entering a comment here will automatically enter this comment into the log when running a test.

** This feature is available after registering LAN Speed Test*

Open

Opens a previously saved file. This allows you to view previous results, etc. Updated: Saved results now contain all settings and all packet results.

** This feature is available after registering LAN Speed Test*

Results (Tab)

Throughput

Click on Average, Maximum, and Minimum any time after the test to display that throughput for the last completed test. Also, the selection that you are currently on, will be the one that will be displayed and logged for the next test.

Average Throughput

Average throughput is 'Total Packets' multiplied by 'Packet Size' and then divided by 'Time to Complete' for the complete test.

Maximum/Minimum Throughput

Maximum and minimum throughputs are the maximum and minimum speeds for all packets in that test. In other words, lap timers keep track of fastest and slowest packets written and read during the duration of the test.

Please note... If you're only testing with 1 packet, then average, maximum, and minimum throughputs will all be the same.

** This feature is available after registering LAN Speed Test*

'Log' Button

Click on this button to manually add the current results to the log file.

For instance...

Suppose after a test, the average throughput is displayed and logged. You click on 'Maximum Throughput', look at the results and decide you want to add the maximum throughput to the log. Just click on the 'Add to Log' button, and the results will get logged with the 'Maximum' tag.

** This feature is available after registering LAN Speed Test*

'Email' Button

Just like the 'Log' Button, but emails the current results instead.

'Enable Email Notifications' (in 'Options/Email') has to be enabled and there has to be current results displayed before this button is enabled.

** This feature is available after registering LAN Speed Test*

Chart

Displays the individual packet read/write results in a line chart.

Please note... If you're only testing with 1 packet, then the line chart basically displays a straight line showing the results of the 1 packet.

Details

Displays (all) individual packet information and their results.

Print

Prints results to your printer for a hard copy. Individual packet results and line chart can also be included on this report. These option can be turned on/off in the 'Options/General' screen.

Save

Saves results to .csv file. This file can then be opened back up in LAN Speed Test or notepad, excel, or any programs that supports .csv files. Updated: Saved results now contain all settings and all packet results.

** This feature is available after registering LAN Speed Test*

Details (Tab)

Displays detailed computer and testing information that is helpful in troubleshooting, tech support, etc. If you need to email your results to technical support, just click on the 'Copy to Clipboard' button after doing a test and paste in your email.

View Log (Tab)

Click on this button to view/edit your log file.

You can adjust this window and column sizes to your liking and LAN Speed Test will remember the screen settings each time you use this button.

You can click on a column header to sort by that column. All columns are sortable.

You can right click on an entry and a list of options will pop up. You can also multi-select by using the normal Windows 'Ctrl' & 'Shift' options

Select All (Ctrl+A)

Selects all lines in log file

Clear Selection

Unselects all selected log lines

Cut (Ctrl+X)

Copies the line/lines that are selected to the clipboard along with the header and then delete's the line/lines. You can then paste the lines into notepad, etc.

Copy with Headers (Ctrl+C)

Copies the line/lines that are selected to the clipboard along with the header. You can then paste the lines into notepad, etc.

Copy without Headers (Ctrl+D)

Copies the line/lines that are selected to the clipboard. No headers are included. You can then paste the lines into notepad, etc.

Delete (Del)

Deletes the line/lines that are selected.

Edit and copy notes to all selected (Ctrl+N)

This option lets you add/edit notes to the lines you select. If you have multiple lines selected, the note you enter will go to all the selected lines.

Auto Fit Columns

Selecting this will auto fit all columns into the current screen size.

All Columns / Your Columns

This toggles whether to show your columns and widths or all columns.

Clear Log

Clears the log file - caution this will clear it out and you will lose all the entries.

Save Changes

Saves all current changes to the log file and closes the window.

Refresh Log

Clears the screen and refresh it with the current log file.

** This feature is available after registering LAN Speed Test*

Options (Tab)

General

This configuration screen allows you to fine tune the network test performed by LAN Speed Test. The values inside the () are the default settings.

Default display after a successful test (Results):

After the test completes, LAN Speed Test automatically switches the interface to the 'Results' tab, and depending on this setting, will automatically set the 'Results' screen to Results, Chart, or Details view.

Log Results (Checked): *

After the test completes, LAN Speed Test will automatically make an entry to the log file if this is checked.

Log Location: *

Tells LAN Speed Test where the log file is located. This can be changed to a shared folder, USB flash drive, etc. if desired.

Log all three (Avg, Max, & Min) (Not Checked): *

After the test completes, LAN Speed Test will automatically make an entry to the log file if this is checked.

Multiple Tests (Off): *

You can choose to repeat test for up to 120 times or even until manually stopped.

Test Every (10 Minutes): *

Number of seconds / minutes / hours to wait between repeated tests (only applies if Multiple Tests is activated).

Use Shared Settings (Checked): *

If LAN Speed Test is run from a shared folder and accessed by many different computers, you can decide if you want each computer or network interface to have their own settings or if you want all computers and network interfaces to share the same settings.

If checked, test settings are shared with all Network Interfaces on this computer and any computer using

this prefs file. If unchecked, test settings are specific depending upon Network Interface (Mac address).

Binary Display Mode (Not Checked): *

With this option checked, the test file and the results displayed are in binary format (1KiB = 1024 Bytes, 1MiB = 1,048,576 Bytes, etc.). Otherwise, the test file and the results displayed are in decimal format (1KB = 1000 Bytes, 1MB = 1,000,000 Bytes, etc.). The default is to display in decimal format.

Delete test file when finished (Checked):

With this option checked, the generated test file will be deleted from the folder when the test is finished. This should normally be checked and only applies when 'Testing to LAN Speed Test Server' is NOT checked.

Automatically check for update (Checked):

With this option checked, LAN Speed Test will check to make sure that you are using the latest version upon startup (only once a day). You will be notified only if it finds a newer version.

Show details on print/email reports (Not Checked):

Select this if you want individual packet results displayed on the email and printed report.

Show chart on print/email reports (Checked):

Select this if you want the line chart displayed on the email and printed report.

** This option can only be changed after registering LAN Speed Test*

Email

Configuration-Email

This configuration screen allows you to set up the built in SMTP email client so that you can email your results manually when pressing the email button, automatically after each test, or only when the results are below your setpoint.

This SMTP email client expects to be connected to the internet when testing. If you have dialup connection, it will not dialup on it's own before sending an email.

Enable Email Notifications: *

When this option is checked, all emailing options become available to you. When this option is unchecked, no emails will be sent out, and all emailing options become unavailable.

Manual *

Results will only be emailed when you press the 'Email' button on the 'Results' page.

Always *

Results will be emailed after every test automatically.

Below _____ *

Results will only be emailed when results are below the speed indicated by the slider bar. This can be very useful in alerting you when connections need to be reset, etc.

SMTP Server Name or IP: *

Enter the DNS name or IP address of the SMTP server to be used to send emails (example: mail.yourdomain.com, or smtp.gmail.com, etc).

User Name: *

Enter the user name to be used when authenticating on the SMTP server.

Password: *

Enter the password to be used when authenticating on the SMTP server.

Email From: *

Enter the sender's email address. If you enter a wrong email address, the email will not be sent.

Email To: *

Specify the email address where the emails will be sent. You can enter multiple email addresses separated by comma.

Connection Encryption: *

Most email services require encryption. Choose the encryption setting from the drop-down list (or None). For example, gMail and Microsoft's outlook.com supports 'TLS-SSLTLS'.

Port: *

Enter the port number to be used by the SMTP server to send the emails. For example, gMail requires port 465. Microsoft's outlook.com requires port 587.

Send Test Email: *

Press Send Test Email if you want to test the configuration you just entered. If all the settings are correct, a test email should arrive in your specified email account.

** This option can only be changed after registering LAN Speed Test*

Advanced

Advanced Cache Override (Default):

With this setting, you can manually override the computer's decision to turn on the write cache, read cache, both, or neither. Caution, this can cause unreliable results when used incorrectly. For example, if the read cache is activated when it shouldn't be, the operating system, could read the test file from the cache instead of the shared folder causing the read times to be extremely quick and incorrect.

File (packet) re-creation:

This is the process that LAN Speed Test will use to create packets 2 and up when testing to a shared folder. The first packet has to be created. The second and all other packets will normally be created new on Windows systems and will be opened and overwritten on Mac systems. This is normally the most efficient methods for each system. Sometimes, however, testing to certain NAS's with Mac OS we've found that it can be more efficient to create new for all packets. If you find that packets 2 and up are slower than the first packet, try switching this option to 'Create New'. Just remember to switch this back for other tests.

Chunk Size (512 KB):

The chunk size is the amount of data that can be sent out at one time. This works for shared folders, local drives, and LAN Speed Test Server.

Reset All:

This button will reset the configuration to the default settings (as though LAN Speed Test was freshly installed). This will NOT delete the mail settings, Folder history, or LST Server history.

Command Line Arguments: *

LAN Speed Test can be started from the command line or terminal window. The arguments tell LAN Speed test how to run the test without requiring input from the user. LAN Speed Test builds the arguments for you. This window shows the command line arguments to use (to do the tests exactly as currently configured) when starting LAN Speed Test from the command line or terminal window. You can simply click on the 'Copy Args to Clipboard' button to copy this window to your clipboard. You can paste this into your command/terminal window or create a batch file with it, etc.

Do Not Auto Start: *

LAN Speed Test will open up with all the settings pre-configured from the Command Line Arguments, but will not begin the test.

Auto Start - Normal Display: *

LAN Speed Test will open up with all the settings pre-configured from the Command Line Arguments, and will immediately begin the test.

Auto Start - Silent Display: *

LAN Speed Test will immediately begin the test with the setting pre-configured from the Command Line Arguments, but will display nothing. The user will not be aware that the test is running.

Windows Example...

```
LAN_SpeedTest /Silent-False /MAC-00:1C:42:A7:87:A4 /FOLDER-\\wdmycloud\Public\ /TESTR-True /MIN-37 /MAX-37 /PACKETS-10 /NOTE-This test was run from the command line /CALCAS-1 /THPUT-AVG /LOG-True /LOGLOC-\\Mac\Files\LAN_SpeedTest\ /MULT-0-8 /BIN-False /DEL-True /SHOWDETAILS-False /SHOWCHART-True /CHUNK-4 /EMAIL-0
```

Mac Example...

```
open lan_speedtest.app --args /Silent-False /MAC-00:1C:42:A7:87:A4 /FOLDER-/Volumes/Public /TESTR-True /MIN-37 /MAX-37 /PACKETS-10 /NOTE-This test was run from the command line /CALCAS-1 /THPUT-AVG /LOG-True /LOGLOC-/Files/LAN_SpeedTest /MULT-0-8 /BIN-False /DEL-True /SHOWDETAILS-False /SHOWCHART-True /CHUNK-4 /EMAIL-0
```

** This option can only be changed after registering LAN Speed Test*

Network Scan (Tab)

Click on the 'Scan' button and LAN Speed Test will scan your local network (i.e. 192.168.1.1 - 192.168.1.254) and display the results in this window. Click on a column header to sort by that column. All columns are sortable.

You can add/edit a note or change the name of any device by simply clicking directly in the cell and editing that entry.

Windows defaults to save IP addresses for a short time even after the computer is removed from the network. So, even when a computer is shut down or removed from the network, you might still see it listed in the Network Scan for a short time afterwards. Usually the Mac Address is blank. If you don't want to see these entries, simply check 'Active Only'.

** This feature is available after registering LAN Speed Test*

(?) Typical

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, is 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.

Errors

The most common error is trying to test to a folder that either isn't there or you do not have write permissions for (ie. Error creating test file...Please check the filename or permissions). Either changing permissions or choosing another folder is required. Be aware that there are certain folders that windows 7 and newer 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 'Server Error - Could not connect with server'. 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.

Registering LAN Speed Test

Thank you for using LAN Speed Test!

After installing LAN Speed Test v4, it begins in (Lite) mode. LAN Speed Test (Lite) is fully functional with no time limits, etc. - only some of the more advanced features are disabled.

Registering LAN Speed enables all of these features, and helps support Totusoft and our efforts to continue to provide new simple software solutions. Simply choose Help / Register from the toolbar and follow the instructions.

- Test with multiple packets (up to 1000)
- View each packet's results in a chart or by details
- View test results by Average, Maximum, and Minimum throughputs
- All of the logging features
- Email results with various options

- Option to use random packet sizes
- Network scan
- Run multiple tests automatically
- Command Line mode
- Open/Save results
- Binary Mode
- Multi user prefs file
- and more!

Please remember to keep a copy of the Serial and Key numbers! These numbers or a copy of the .ini file will be needed when moving LAN Speed Test to another computer or flash drive.

Didn't receive your registration after purchase?

- If you do not receive your registration within a few minutes of your purchase, remember that this information is being sent to the email address that you used with PayPal. If this is different than your normal email address, then make sure you check there. Also, some anti-spam engines are a little too aggressive, make sure you check your spam or junk folder.
- If you still cannot find your registration email, simply click [here](#) or go to 'Support' then to 'Lost Registration'. Enter your registered email address, select 'Email from secondary account' and you should received a copy of your registration within a few minutes. This email is being sent out from a different email server, so this one should get through, even if the first one didn't because of an overzealous SPAM filter along the way.
- If these options do not work, you can contact support [here](#).

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