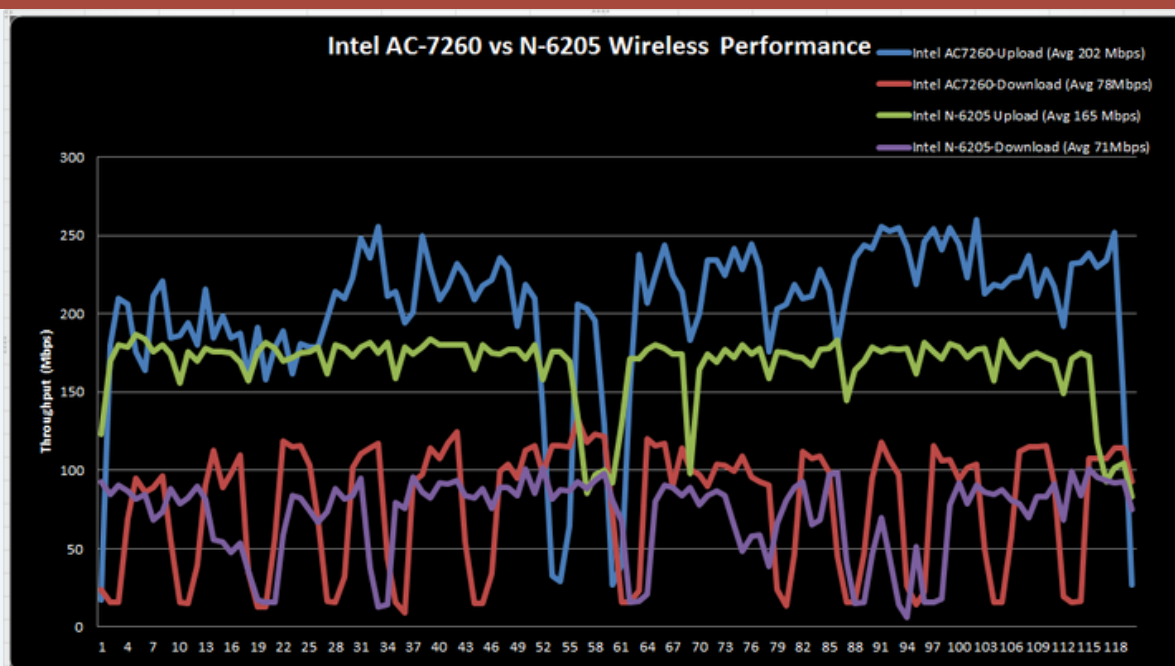


EION BYTES

How to Properly Measure Your Wireless Link Throughput, Packet Loss, and Latency using JPerf



JPerf Testing Tool

JPerf is a graphical front end for the popular network testing tool Iperf. Using JPerf, you can quickly test a Wired or Wireless WAN or LAN connection to determine the maximum network throughput. The test results are automatically graphed and presented in a format that is easy to read. JPerf can also be used to detect packet loss, delay, jitter, and other common network problems.

It is Free Tool

JPerf provides many benefits over Iperf, which is a command-line-only application. Besides being reliable and easy to use, JPerf is completely free. The utility is fully open source and runs on Windows, MAC and Linux systems.

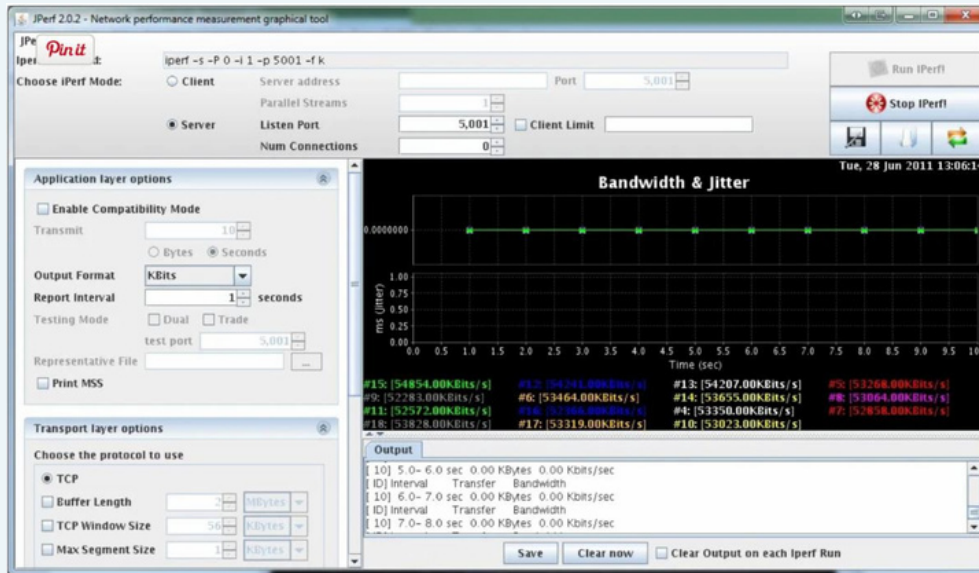
To get JPerf running, you will need to download the [jperf-2.0.2.zip](#) file from the [JPerf Google code page](#).

There isn't an installer, so simply extract the contents of the zip file to a location on your computer such as C:\JPerf. To launch the JPerf utility, run `jperf.bat`.

Setting Up JPerf Server (Master Side)

JPerf is designed to run as a client/server application. To run a test, you will need to set up a JPerf server on your network. Then you can run a JPerf client from another location on the network which will connect to the remote server.

To start the JPerf server, select the radio button labeled server then click Run IPerf. By default, JPerf runs in TCP mode and listens on port 5001.



Connecting a Client to the Server (Slave Side)

To connect to the JPerf server to run a test, you'll need to first select the client radio button. In the server address field, type in the IP address of the computer running the JPerf server. To begin the test, click on run jPerf in the upper right-hand corner of the app.

By default, JPerf will run a 10-second TCP test using 1 stream. While the test is running, the graph will update in real-time to reflect the results.

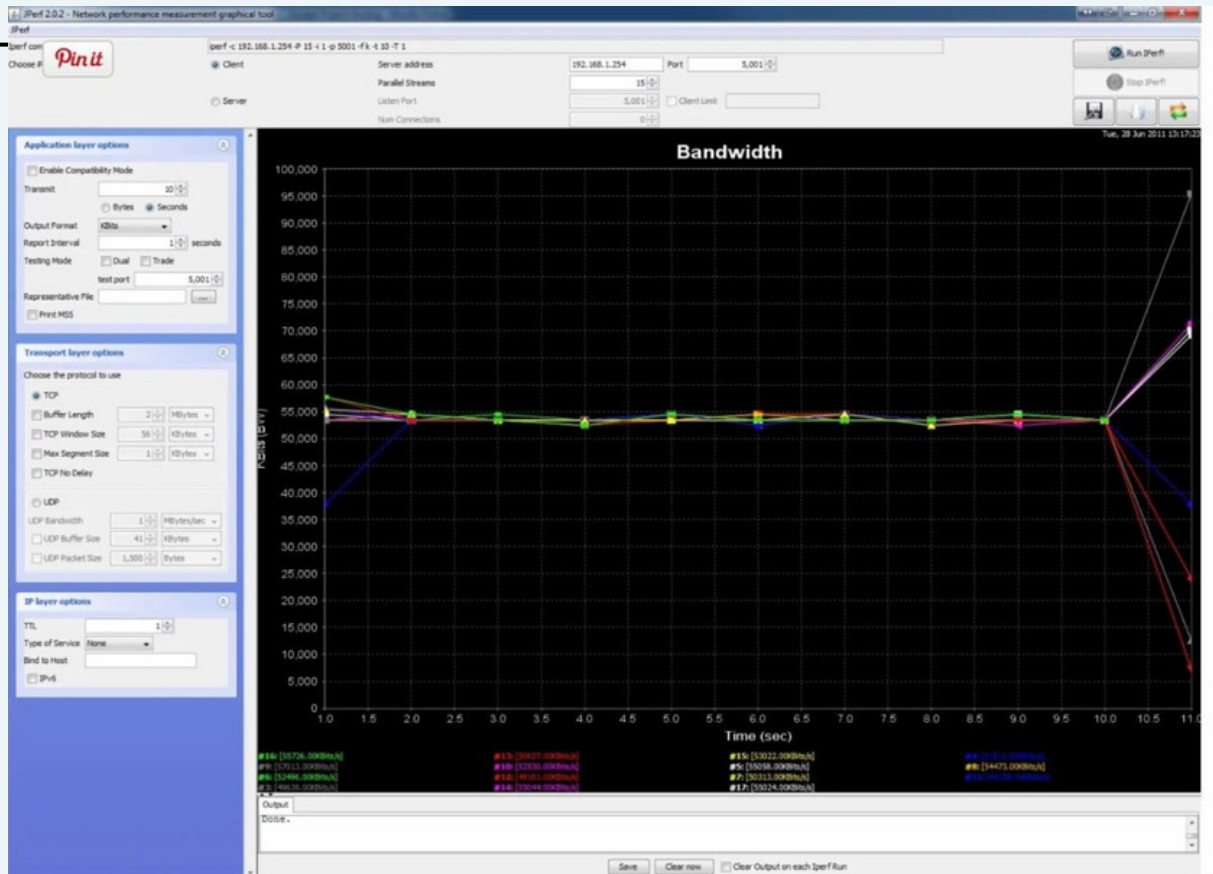
There are several options that can be adjusted to modify the parameters of the test.

Application layer options

- **Transmit** - Run the test for a specified number of seconds, or until a certain amount of bytes have been transferred.
- **Output Format** - Test results can be changed to display bits, bytes, Kbytes, etc.
- **Report Interval** - This adjusts how often the graph results are updated.

Transport layer options

There are several TCP options that can be modified such as **buffer length**, **window size**, and **MSS**. JPerf can also function in **UDP mode**, although the server must be operating in UDP mode in order for this test to work.



JPerf Tips and Tricks

Below are a few useful tips for improving your JPerf results.

- **Use Parallel streams** - The bandwidth of a single TCP session is limited by several factors. By using parallel streams you can easily saturate a very high bandwidth connection. In the JPerf client settings, you can specify the number of streams to use. I've found 10 to be a good number.
- **Run a Bi-Directional Test** - By default JPerf transmits data from the client to the server. By selecting the dual testing mode under application layer options JPerf will send data in both directions at the same time.
- **Use a representative file** - JPerf has a cool ability that allows you to select a file to be transmitted to the server during the test. This function allows you to simulate a real-world data transfer across your network in a controlled manner.
- **Use JPerf to create iPerf commands** - Since JPerf uses iPerf as a back end to run all of the tests you can use JPerf to help you build useful iPerf commands. Select the test options you want using the GUI and then copy the command it created from the box at the top of the application.

Visit our website