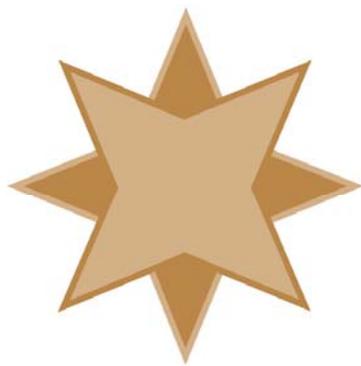


Performing a Communications Stress Test with SmartScout or Pervasive System Analyzer

A White Paper From



**GOLDSTAR
SOFTWARE**

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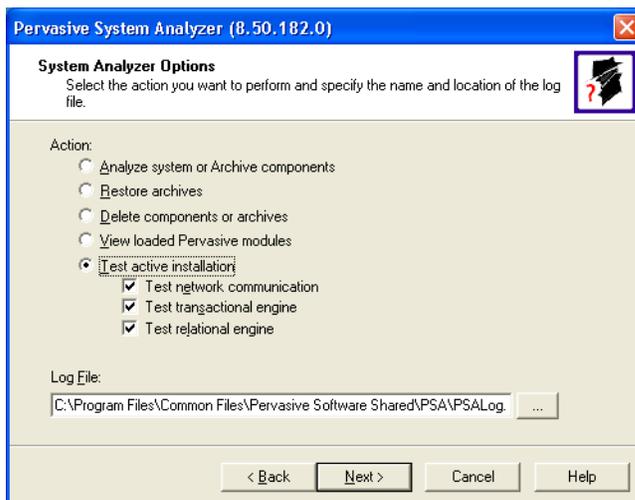
Pervasive offers two tools for testing your network connection from a Pervasive client workstation to your Pervasive database server. Older installations (Btrieve 6.15, Pervasive.SQL 7, and Pervasive.SQL 2000i) use the SmartScout utility for this test. Newer installations (Pervasive.SQL 2000i and above) use the Pervasive System Analyzer to perform these tests.

The network communications stress test can highlight problems within your underlying network that can contribute to communications failures, performance problems, and even file corruption!

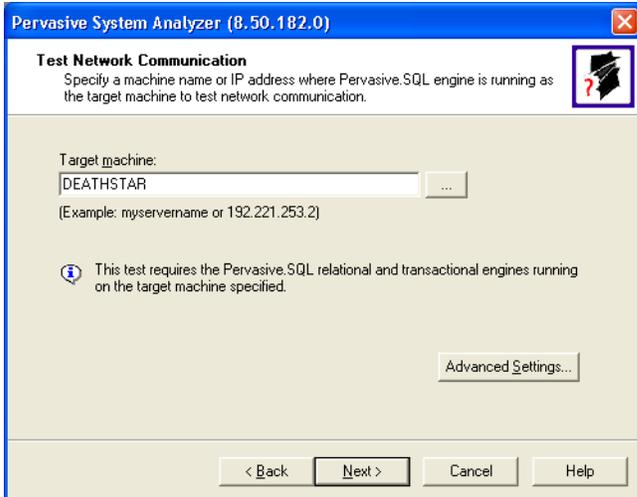
Using Pervasive System Analyzer to Perform a Stress Test

The Pervasive System Analyzer allows you to perform a network stress test from your workstation to a server.

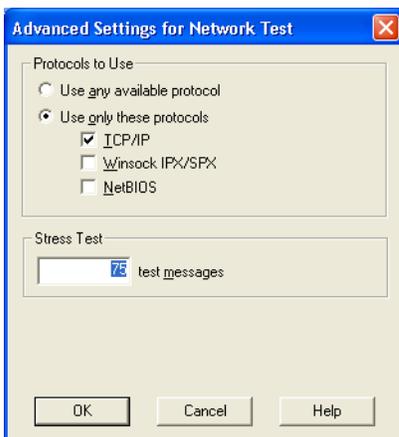
First, start the Pervasive System Analyzer. This screen may look slightly different depending on which version of the database client you have on your workstation.



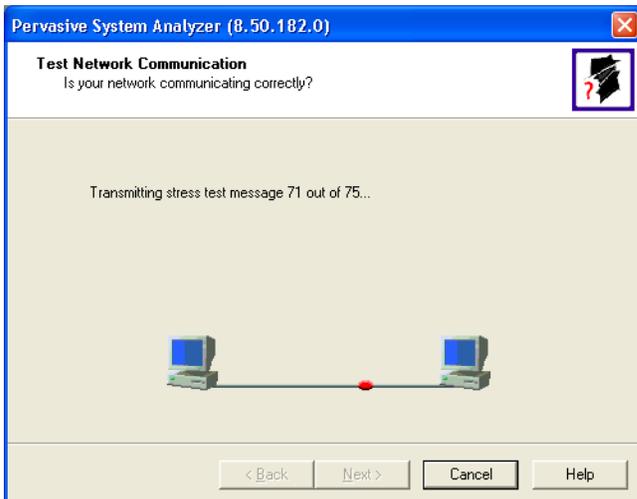
Select the radio option by "Test Active Installation". Make sure that only the checkbox by Test Network Communications is selected. Click Next.



Enter the name of the server in the dialog box. Click on the Advanced button.



Select the tests to run over TCP/IP only (uncheck all other protocols). Set up the test to run with a lot of packets -- 500 to 1000 is a good number to start with, or pick something large like 5000 for a longer test. Click OK, then click Next to run the test. Watch the display carefully until you see it start to count.



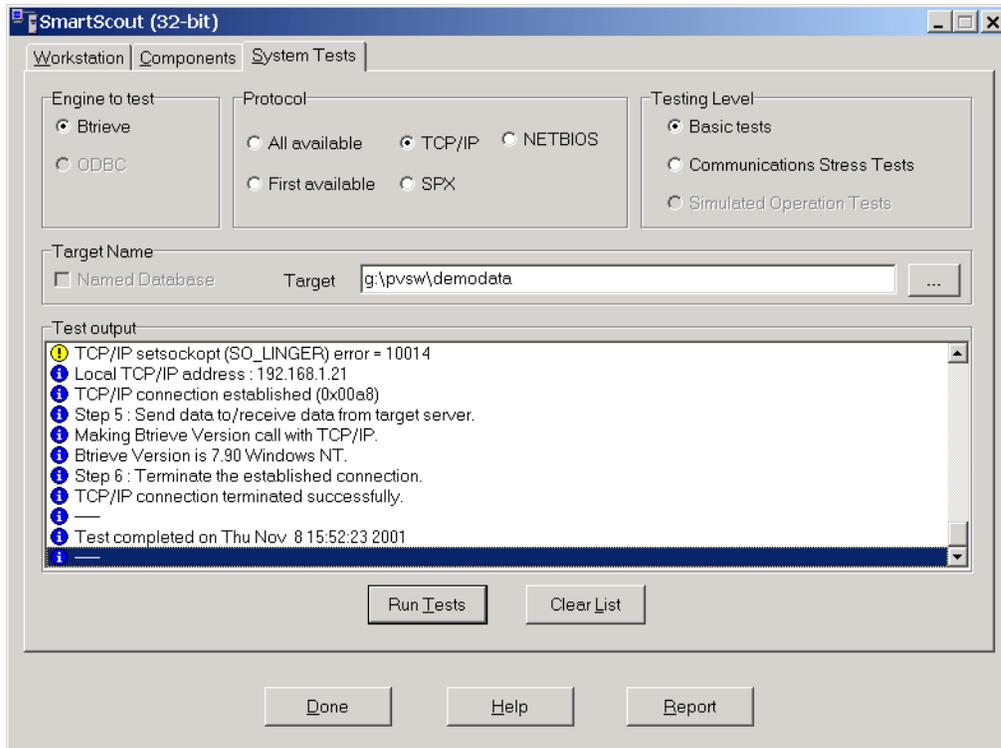
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Page 3 of 5

Using SmartScout to Perform a Stress Test

The SmartScout utility offers the same capabilities, but for older engines. First, start SmartScout by going to Start/Run and entering SSCOUT32.EXE. Select the *System Tests* tab on top of the screen.



Select the *Btrieve* option, the *TCP/IP* option, and the *Communications Tests* option from the top of this dialog. In the *Target* box, enter (or browse to) the database directory – the location on the database server where the data files are physically located. (This test does not actually access files, it just uses this to verify that name resolution is working.)

Click Run Tests to start the test, which will start counting on the screen as each network packet is sent. When you are done, click Cancel to stop the test. (It will run forever if you leave it up, so remember to shut it down as soon as your test is suitably complete, especially if you are testing a production system!)

Understanding the Stress Test Results

If the counting is rapid and smooth, with no pauses at all, then you have a good network connection. On a 100Mbps network or faster, you should not be able to see the "ones" column counting -- it should be too fast. Users with a 10Mbps network connection will be notably slower, but the counting should still remain consistent with the same amount of time between each number in the counter. If you see any periodic pauses (a pause being defined as any delay over ¼-second), or if you see it count fast, then slow, then fast, then slow, etc., then you may be seeing the results of a low-level networking problem. Each time a single packet is lost in this test, a ¼-second delay can be seen in the counting. If

you see a delay of a half-second or more, then multiple packets are being dropped by the network at the TCP layer, which is indicative of a more serious problem.

If you do see pausing, you will want to work with your networking staff to resolve the issues and repeat the test until you get smooth counting all the way through. The most common issues that result in packet drops are faulty cabling, bad termination, duplex mismatches, bad NIC drivers, and faulty switch hardware.

You can also use the test to localize the problem. Try moving a laptop to the core switch (the one with the server installed) and run the test from there. It should be fast, with no pauses. If the laptop sees the issue on the core switch, then the problem is likely with the server or the server's cabling. Then, keep moving to a network switch farther and farther away from the server (towards the workstations which see performance problems) until the laptop sees the same issue. When it does, you'll have located the switch with the configuration or cabling problem. If you get all the way out to the workstation and cannot duplicate the problem, then the issue is localized to the PC itself or to its own cable.

You can also use this test to gain an idea of the relative performance of two different network connections or computers by running the test on two computers and comparing the results. If one computer can run 1000 network packets in 10 seconds, and the other takes 15 seconds, then you can assume that running your database application on the faster machine should run faster, too.

Of course, if you still can't get it to work, contact Goldstar Software at 1-708-647-7665 or <http://www.goldstarsoftware.com> and let our networking experts help you with it!