

GeneralTools

Troubleshooting Procedures

PERT Troubleshooting Procedures, as used in the earlier centralised PERT in GN2 (2004-2008), are laid down in GN2 Deliverable DS3.5.2 (see references section), which also contains the User Guide for using the (now-defunct) *PERT Ticket System* (PTS).

Standard tests

- [Ping](#) - simple RTT/loss measurement using ICMP ECHO requests
- [Fping](#) - ping variant with concurrent measurement of multiple destinations

End-user tests

tweak tools <http://www.dslreports.com/tweaks> is able to run a simple end-user test, checking such parameters as TCP options, receive window size, data transfer rates. It is all done through the user's web-browser making it a simple test for them to do.

Linux Tools and Checks

```
ip route show cache
```

Linux is able to apply specific conditions (MSS, ssthresh) to specific routes. Some parameters (such as MSS, ssthresh) can be set manually (with `ip route add|replace ...=`) whilst others are changed automatically by Linux in response to what it learns from TCP (such parameters include estimated rtt, cwnd and re-ordering). The learned info is stored in the route cache and thus can be shown with `=ip route show cache`. Note, this learning behaviour can actually limit TCP performance - if the last transfer was poor, then the starting TCP parameters will be pessimistic. For this reason some tools, e.g. `bwctl`, always flush the route cache before starting a test.

References

- *PERT Troubleshooting Procedures - 2nd Edition*, B. Belter, A. Harding, T. Rodwell, GN2 deliverable D3.5.2, August 2006 ([PDF](#))

– Main.SimonLeinen - 18 Sep 2005 - 17 Aug 2010

– Main.BartoszBelter - 28 Mar 2006