



IP Traffic - Test & Measure

**IP Traffic generator and measurement tool for IP networks
(Wired, Wireless, PLC, mobile, satellite, etc.)**

Certification of wired and wireless IP networks

Telcos Enterprise users
Evaluation labs ISPs R & D
Network equipment manufacturers

IPv4 & IPv6

Download trial version at
www.zti-telecom.com

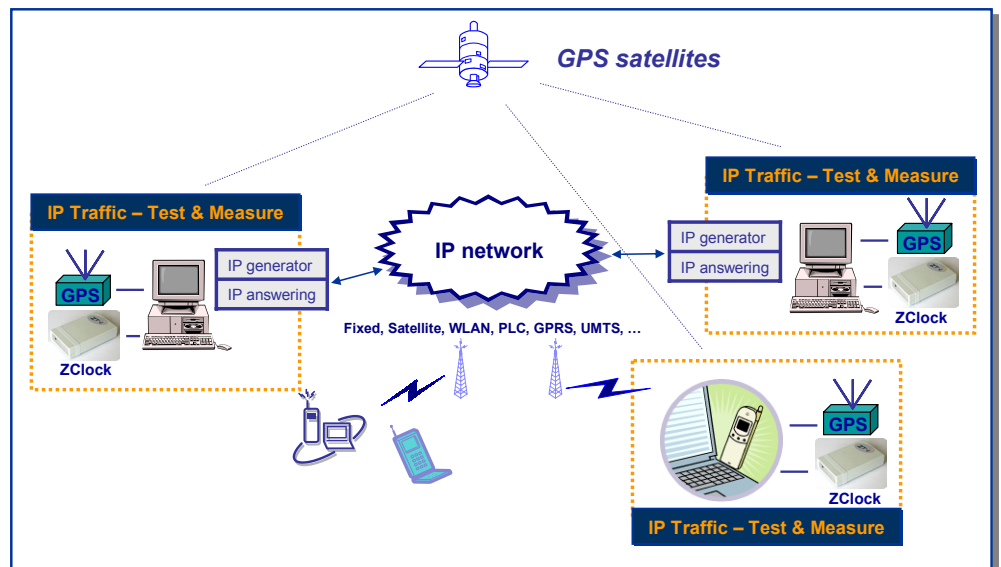
**Windows 98, 2000,
XP & 2003 Server**



Desktop & Laptop

"IP Traffic - Test & Measure" is a software testing tool that can run on any Windows PC (98, 2000, XP or 2003 Server). It can generate, receive, capture and replay IP traffic, and measure end-to-end performance and Quality Of Service over any IP network (IPv4 & IPv6).

"IP Traffic - Test & Measure" can be used with two optional products in order to have a precise time reference and to realize measures with a high accuracy: a GPS kit provides an absolute time reference and the ZClock module delivers a high precision clock. This allows time stamping of IP packets sent or received, and measurement of QoS parameters over the IP network used.



"IP Traffic - Test & Measure" offers the following main modules:

- 'IP Generator' with multiple modes to generate traffic and real time statistics. A replay traffic mode is particularly useful to generate real traffic (web session, FTP, videoconferencing, ...) captured in real time with the 'Traffic Sniffer' module.
- 'IP Answering' module with real time statistics.
- 'Traffic Sniffer' to capture IP traffic in real time. Captured traffic can then be replayed by the 'IP Generator' module.
- 'Traffic Observer' for the on-line or off-line analysis of many QoS parameters (send and receive): Throughputs, Inter Packet Delay, Packet Erasure Rate (PER), Packet Transit Delay, ... A graphical analyser with many features provides a view of IP traffic for each IP connection, and the user can configure parameters and statistics to be exported into a file for use with an external tool (Excel for example).
- Two operating modes: Normal or Remote (for remote control of a PC with 'IP Traffic - Test & Measure' used as a server).

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"IP Traffic - Test & Measure" key features

IP Traffic Generator (TCP, UDP & ICMP) – up to 16 simultaneous connections

Three operating modes: 'Unitary', 'Automatic' or 'Replay Traffic'

- ▶ Unitary testing mode (with independent parameters for each connection) - the following parameters can be defined: IPv4 or IPv6, destination parameters (IP address, port number and protocol: TCP, UDP or ICMP), internal or external data source generator (user file with a loop counter or user DLL), the RTT (Round Trip Time) option, the ToS (Type of Service) byte, the TTL (Time To Live) value and the option to save data received on the connection. The internal data generator offers different parameters: data to send (mathematical law, packet generator or file to send), the packet size, the inter packet delay, the average throughput if needed, and the option to save generated traffic into a file.
- ▶ Automatic testing mode - the user chooses the numbers of connections to activate. Starting time, data volume to send and packet size on the enabled connections can be configured.
- ▶ Replay traffic mode - to replay traffic previously captured by the 'Traffic Sniffer' module on multiple IP connections.
- ▶ Traffic statistics for each connection: Sent and Received Throughputs, Sent and Received Packet Throughputs, Sent and Received data volumes, Sent and Received Packets, Data Volume to send, Remaining volume, Sequence Numbering Errors, Jitter and RTT (min, max and mean).

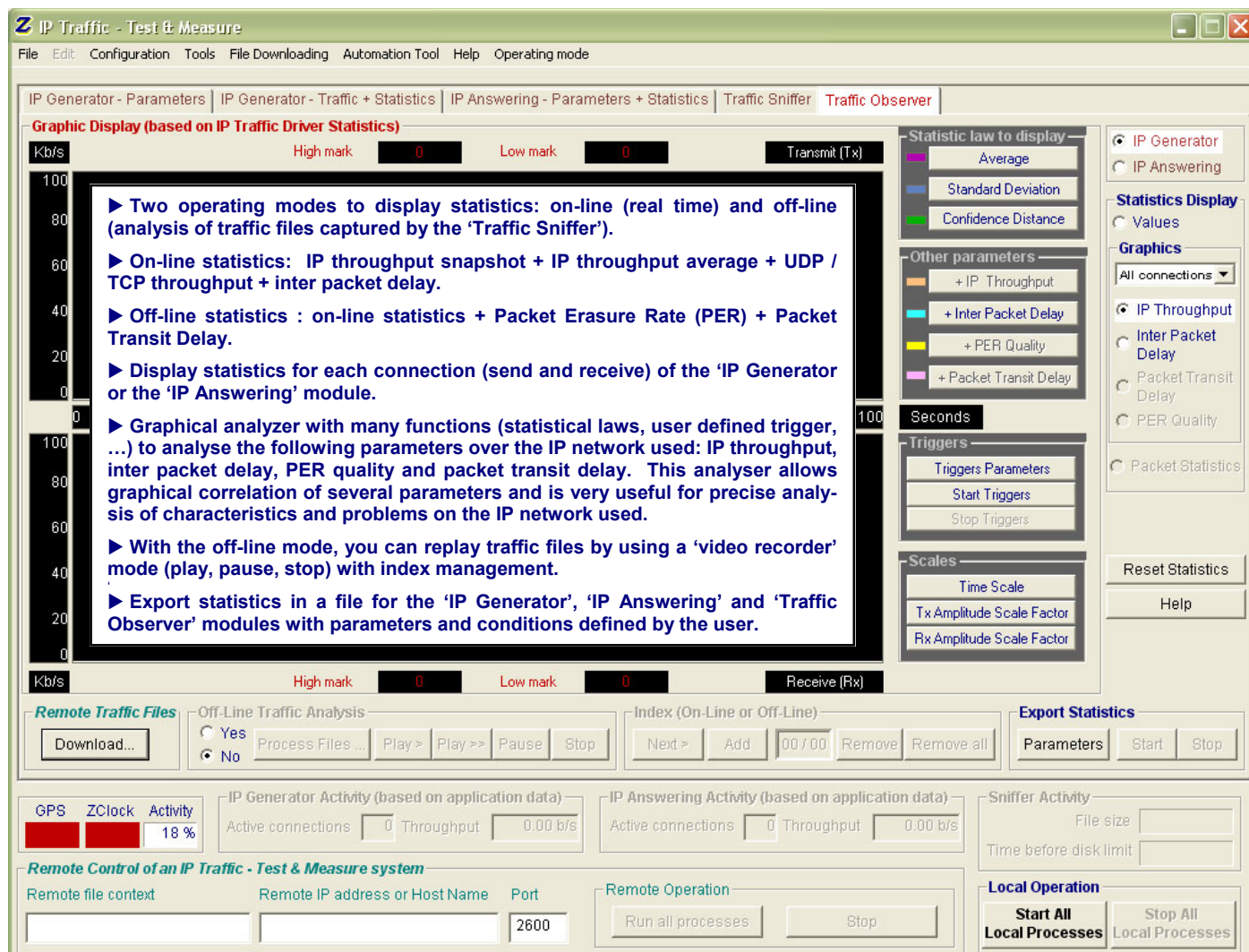
IP Answering (TCP & UDP) – up to 16 simultaneous connections

- ▶ Select and define for each connection the following parameters: a specific IP address or any, the port number and protocol (TCP or UDP). For each connection, five operating modes are available: 'Echoer', 'Echoer in a file', 'Absorber', 'Absorber in a file' and 'Absorber + Generator'.
- ▶ Traffic statistics for each connection: Sent and Received Throughputs, Sent and Received Packet Throughputs, Sent and Received data volumes, Sent and Received Packets, Data Volume to send, Remaining volume, Sequence Numbering Errors, Data not echoed and Jitter.

Traffic Sniffer

- ▶ Define IP filters to capture traffic at the driver level (under the TCP/IP stack). Captured traffic is time stamped in real time and saved in a file.
- ▶ An analysis tool operates on a captured traffic file to generate data traffic files used by the 'IP Generator' module.

Traffic Observer: a powerful tool for on-line and off-line graphical analysis



"IP Traffic - Test & Measure" and the Traffic Observer tab