F-Tester NGA

Efficient, reliable and accurate testing of data networks

CZECH TECHNICAL UNIVERSITY IN PRAGUE

FACULTY OF ELECTRICAL ENGINEERING

Department of Telecommunication Engineering

DATASHEET

- **Measurement and performance parameters quantification in telecommunication networks.** F-Tester can verify performance parameters and reliability of the entire communication network or its section with respect to a specific service or application (such as SLA compliance).
- **Testing platform for NGA** (Next Generation Access), **IoT and Smart Grid networks.**
- **Device or service.** F-Tester can be deployed as a terminal device by a customer or purchased as a service delivered by our expert team.
- **Customized tests.** F-Tester contains a set of pre-configured tests comprising the most common network performance benchmarking tasks. These tests can be easily customized to reflect the specific needs of the specific application.
- **Results understanding at a glance.** F-Tester plots the measurement results using time diagrams, histograms and box-plots, so that the results are quickly and easily understood, with visualizations designed to show relationships among the displayed parameters. The statistical extension provides quantification of important parameters for extremely comprehensive setups and compares these results with pre-set limits.

F-Tester is designed to measure parameters of communication networks that use TCP/IP protocols. These measurements rely on traffic definitions based on predefined traffic patterns and the results of such measurements are given as time-sequence of parameters such as response time of the network, round-trip time and error rate.

Analyses can be conducted by F-Tester itself or using a master computer that can interconnect several F-Testers and subsequently analyze the data and control measurements in a 24/7 mode of operation.

Testing options

- predefined traffic pattern measurements (traffic patterns of time-varying loads and packet lengths): constant, steps, saw traffic pattern or other traffic patterns
- measurement of network throughput in time (using TCP flows)
- multiple flows between several F-Testers in the network
- simulation of traffic patterns based on captured traffic, e.g., industrial protocols, http, VoIP, IPTV, etc.
- DoS and DDoS attacks

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Types of tests:

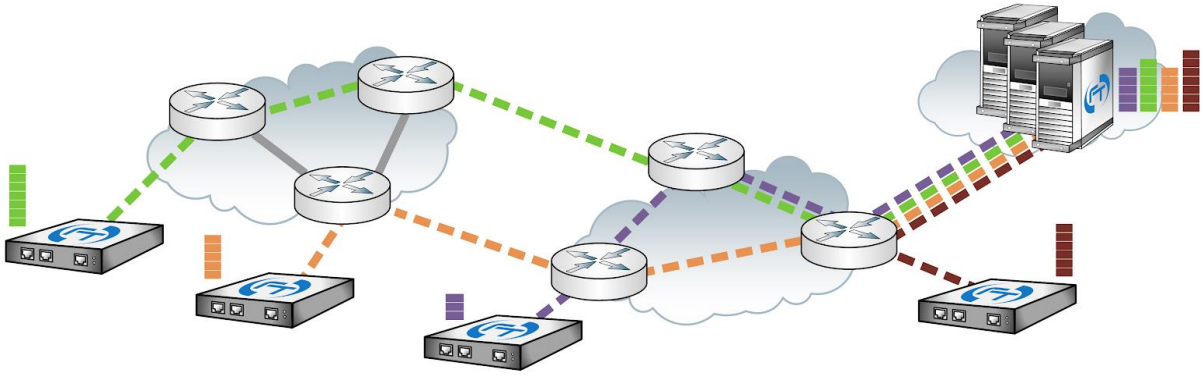
- Short-term measurements
  - brief verification of a network
  - bottleneck detection
- Long-term measurements
  - detailed analyses scaled to hours, days or weeks
  - communication stability tests

Network topologies:

- point-to-point
- point-to-multipoint
- mesh

Outputs:

- time charts (combination of multiple graphs in a single chart)
- histograms (distribution of a measured parameter frequency)
- statistics and box-plots (mean, variance, median, min-max value)
- threshold detection



An example of F-Tester deployment in a more complex scenario in a point-to-multipoint arrangement (P2MP or MESH). Performance analysis is carried out between two F-Testers or between F-Testers and a VM in a datacenter.

Technical parameters:

- data interfaces:
  - 2 x RJ-45 Ethernet 10/100/1000BASE-T in bridge mode
- monitoring interfaces:
  - 1 x RJ-45 Ethernet 10/100/1000BASE-T
  - 1 x DB9 – RS232
- data storage: SSD 256+ GB
- power supply: 12V DC, maximum power 12 W
- environmental conditions: 0–85 °C
- control: web interface, terminal
- IP Code: IP40

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