TrendMultipro Data

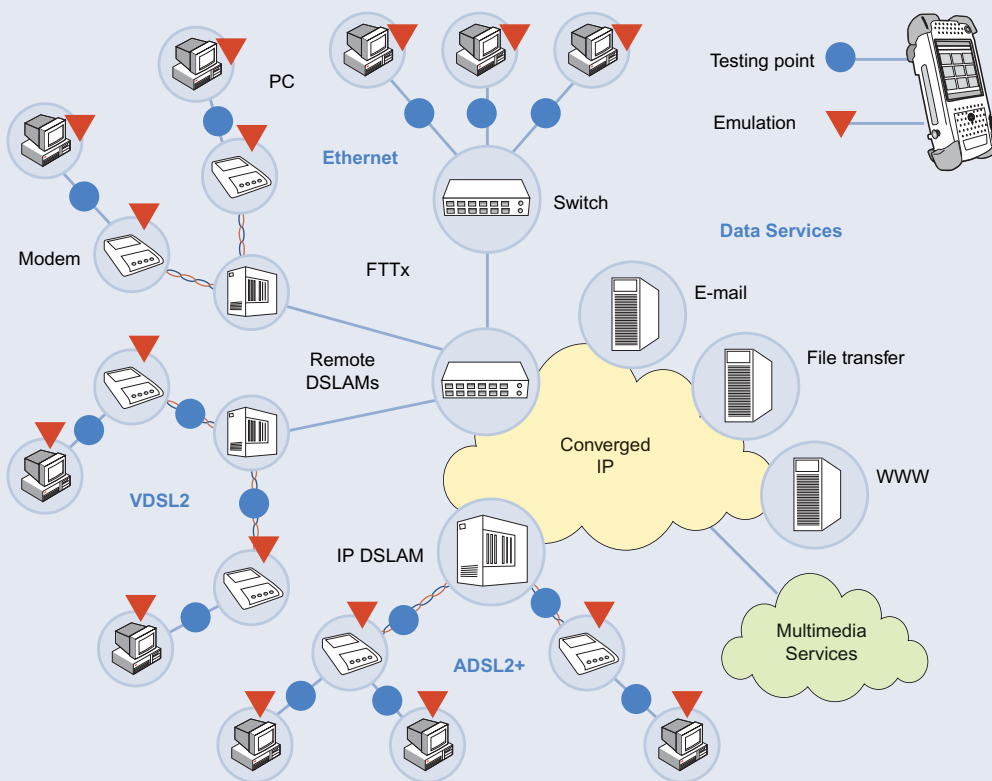*Easy Broadband Data Service Verification*

Local loop technologies are developing fast to support higher transmission rates and new multimedia applications. These new applications and services need a tester that can deal with any existing technology and adapt easily to future technologies.

Trend Multipro is a flexible, open-architecture test set that verifies the operation of broadband data services in next-generation access networks. Thanks to its modular structure, it doesn't go out of date when new technologies emerge.

Trend Multipro's features are optimised for installation and troubleshooting tasks, and this makes it a very popular tool among field technicians around the world.

Trend Multipro has an intuitive touch screen user interface; one of the reasons why using it requires very little training. Tests are quick and easy to carry out, and designed to give a global view on the broadband data service with minimum effort.

PC

Testing point

Emulation

Ethernet

Switch

Data Services

Modem

FTTx

E-mail

File transfer

Remote DSLAMs

Converged IP

VDSL2

WWW

IP DSLAM

ADSL2+

Multimedia Services

- Ping and Trace Route
- Detailed LAN / WAN statistics
- On-board web browser (optional)
- HTTP download speed test
- PPP Sign-On test with report
- FTP download and upload test
- DSL sync test
- Configurable Pass / Fail thresholds
- Compatible with the latest DSL interfaces
- End-to-end service verification
- ATM F4/F5 OAM Ping test

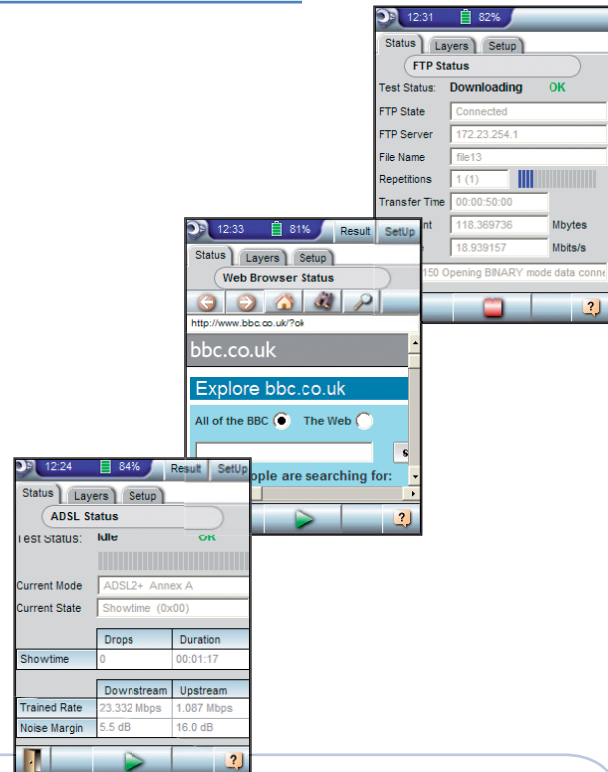**Trend**Communications

True Broadband

data service in the local loop

The Clever Way to Verify the Loop

Trend Multipro is a service-qualifying tool, which means that it concentrates more on the service than the underlying technology. This is important especially from the customer's point of view.

Tests are intended to ensure a reliable end-to-end service. The Ping and Trace Route tests check connectivity, whilst the optional web browser test provides a subjective test of Internet access and web browsing capability. The FTP test, on the other hand, provides an objective view as to the speed and reliability of the connection under test.

Specialised tests help to isolate the cause of potential faults. For example, the DSL Sync test can be used to verify the operation of the DSLAM, and the Sign-On test verifies the BRAS.
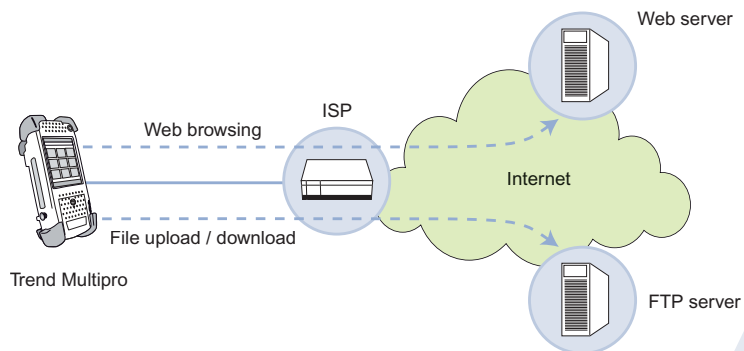
Enabling IP Services

in Broadband access networks

WWW and FTP Tests

Trend Multipro includes an optional web browser that enables technicians to view the contents of a remote web server. The embedded FTP client makes it possible to download and upload files.

The WWW and FTP tests offer information on the end-to-end operation of the application layer. These tests are useful in detecting problems that affect the perception of the service, including:

- Client side issues, such as misconfiguration of the customer PC, modem or router

- Provider network issues, like QoS problems or faults in the local loop that produce reduced throughput

- Server side issues, such as congested or unreachable hosts, broken links and DoS attacks.
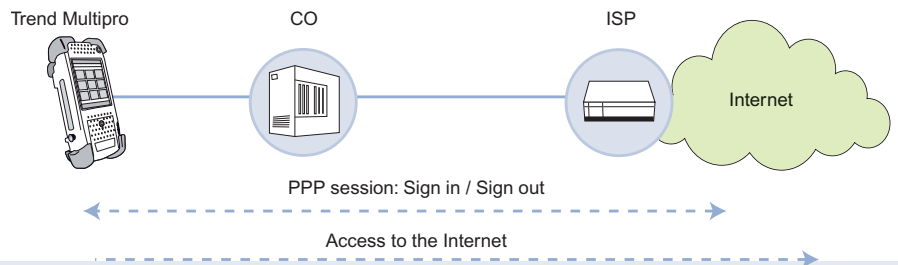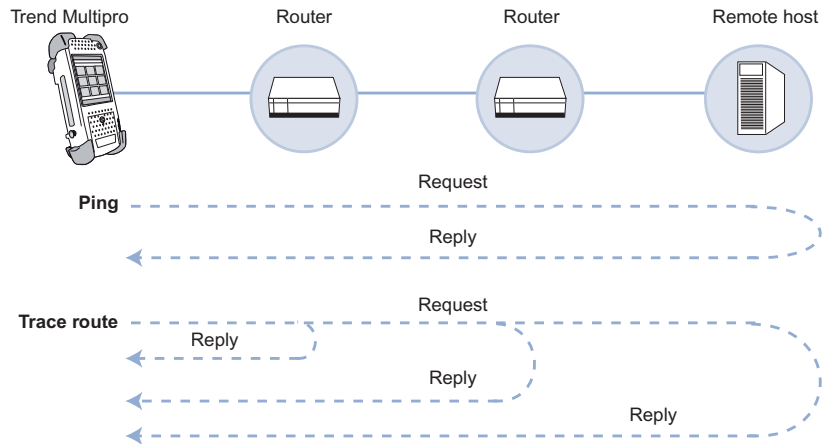
Multifunction Solution

for converged IP networks

IP Ping and Trace Route

IP Ping and Trace Route are two basic ways to test connectivity to a remote host.

Reply messages received from a pinged host confirm that a connection to that host is available. The reply messages enable the tester to compute the Round Trip Delay (RTD) to the remote hosts, giving information on how good the connection is.

Trace Route is used to obtain information about the topology and performance of the provider network. It tells the transmitter how many hops there are on the route to the selected destination, the names or IP addresses of the hops and their latency.

Sign-On Test

Sometimes broadband customers are unable to log into the network and use their Internet access service. Trend Multipro includes a PPP Sign-On test that can be used to evaluate and solve this issue.

You can configure Trend Multipro with different connection profiles that include user names, passwords and an authentication protocol. With this setup you can determine whether the problem is in the service provider network or in the customer premises, and use the PPP log to get more detailed information.

DSL Sync Test

Trend Multipro verifies the copper link between the customer premises and the DSLAM in DSL access technologies. Upstream and downstream bandwidths or noise margins give you information on how the DSL layer is working.

The field-replaceable test modules of Trend Multipro are extremely useful when dealing with access technologies that are under development. ADSL, ADSL2, ADSL2+, VDSL and VDSL2 can be tested, and you can easily add new access technologies just by replacing the test module.

Trend Communications Ltd.

Whitebrook Park
Lower Cookham Road
Maidenhead
Berkshire SL6 8XY
United Kingdom

TrendCommunications

International:	+44 1628 503500
United Kingdom:	01628 503529
France:	01 69 35 54 70
Deutschland:	089 32 30 09 30
España:	93 300 3313
China:	010 8518 3141
India:	11 25554161
Canada / Latin America:	1 256 461 0790
US Toll Free:	1 877 78TREND
Email:	infoline@trendcomms.com
Web:	www.trendcomms.com

A Subsidiary of IDEAL INDUSTRIES, INC.