NT10G05
Embedded Ethernet
Network Performance Assurance

The NT10G05, part of the NetTESTER family, is a powerful & versatile Ethernet Network Performance tester, operating at up to 10Gbps. NetTESTER products are typically deployed, at network connection points, either by the Enterprise customers of Wide-Area Network Service Providers, or by Service Providers themselves, for verification of the performance characteristics of Carrier services.

The NT10G05 is a cost-effective device installed normally either in-line between the Carrier's termination device and the Enterprise LAN, or on a free port of the Enterprise Switch or Router. As an 'always-on' device, the NetTESTER platform is ready to be accessed on demand, locally or remotely, for testing purposes as and when required. Operating with both Layer-2 and Layer-3 addressing, the NT10G05 contains custom hardware for the generation of test traffic, loop-back (by packet-level Source/Destination address swapping) and analysis, to Industry-standard test profiles including RFC 2544 and ITU-T Y.1564.

Users access the NT10G05 either via a local terminal or PC, or remotely across the network via Telnet/SSH or Web Browser, to configure any unit as either a test traffic generator or line-rate loop-back point for Ethernet MAC or IP addressed test packets. Output can be viewed 'live' or automatically transmitted, on test completion, as a report via TFTP to a remote console.

Optionally, the NT10G05 can be configured to operate whilst the network is 'in-service', providing real-time monitoring of jitter and latency between other points in the network via the use of ITU-T Y.1731 (for Layer-2 traffic) or TWAMP ('Two-way Active Measurement Protocol', for Layer-3 traffic). SNMP 'TRAP' alarms are issued to one or more Management stations should pre-defined 'Service Level Agreement' criteria fail to be met.

➢ Up to 10Gbps throughput, with support for SFP+ fibre Network ports
➢ Integrated 'MetroSAM' hardware for wirespeed SLA measurement & verification
➢ RFC2544 and Y.1564 test traffic generation, loopback and reporting, for both Layer-2 (Ethernet MAC) and Layer-3 (IP) traffic
➢ Remotely accessible from central Management platform, via Telnet/SSH and Web Browser
➢ Reporting against throughput, packet-loss, latency and jitter, for multiple packet-sizes
➢ Optional in-service monitoring against pre-defined 'Service Level Agreement' (SLA) performance criteria, with alarming via SNMP in the event of under-performance

NetTESTER - NT10G05

The ever-increasing capacity, complexity and criticality of Enterprise Networks is providing a challenge to IT staff. Enterprise networks may include links provided by different WAN Carriers and tail-circuit providers. For high-capacity networks, Ethernet is the physical connection medium of choice, with WAN services most commonly provisioned via Layer-2 or Layer-3 Virtual Private Networks (VPNs).

Since Ethernet is inherently non-deterministic, monitoring and management of actual performance levels, particularly latency and jitter which are critical to modern VoIP and Video applications, is a real challenge when compared with earlier generation connection-oriented PDH/SDH infrastructures. Particularly in the case of multi-carrier networks, it is difficult for the Enterprise IT team to know whether they are 'getting what they are paying for' in terms of defined 'Service Level Agreement' (SLA) for key network characteristics including throughput, packet-loss, latency and jitter.
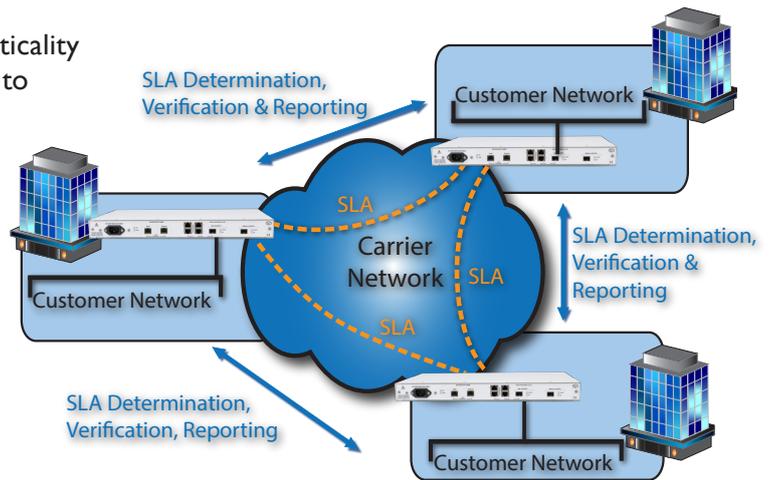
By deploying Metrodata's cost-effective NetTESTER family devices, standard tests such as RFC2544 and/or ITU-T Y.1564 can be instigated at any time between different segments of the WAN, with the results monitored remotely at the Network Operations Centre (NOC). The NT10G05 generates both Layer-2 (Ethernet MAC addressed) and/or Layer-3 (IP) test traffic and can also perform line-rate Source/Destination Address swapping loop-back, via Metrodata's custom 'MetroSAM' (Service Assurance Module) hardware.

Optionally, by integrating the NT10G05 more closely into the network, using the ITU-T Y.1731 and/or TWAMP protocols, test units can be configured to provide background monitoring of network performance relative to pre-defined SLA criteria, providing alarms to the NOC in the event of a breach of contracted performance from one or more Network Carriers.

Network Interfaces
- 4x port 10/100/1000BaseT
- 2x port IEEE802.3ae 10GBaseSR, 10GBaseLR, 10GBaseER

SLA Measurement & Verification
- Embedded test packet generator and delay analyser accurate to micro-second resolution
- ITU-T Y.1564 and RFC2544 testing methodologies
- Port & service-level loopbacks

In-Service Performance Monitoring
- Delay and delay variation monitoring via ITU-T Y.1731 and TWAMP-lite
- Statistics gathered on a per-port & per-service basis
- SFP+ DDM support for fibre optic monitoring

Management
- Local craft port (9-way D) which can be disabled
- Local RJ45 or remote network access for CLI, Web GUI, Telnet, SSH (v2) & SNMP
- TACACS+ for user authentication

Alarms & Resilience
- SNMP Trap notification of network connectivity or SLA failures
- "Dying Gasp" SNMP Trap in the event of power loss

Regulatory & Standards Compliance
- Safety EN60950
- EMC EN55032, EN55024

Environmental
- Dimensions: 435 x 213 x 44 (W x D x H)
- Operating temperature: 0 to +50°C
- Storage temperature: -40 to +70°C
- Humidity: Up to 95% non-condensing
- AC PSU: 85 to 260V, 50/60Hz
- DC PSU: -48V (-36V to -72V)
- Maximum power consumption: 30 Watts

Order Codes
- 80-70-952T: NT10G05 AC PSU
- 80-71-952T: NT10G05 DC PSU
- 80-74-952T: NT10G05 Dual AC PSU