NE-ONE Professional

Software Defined Test Networks Made Easy

Simplifying application performance and resilience testing over networks



Calnex NE-ONE Professional

Key Highlights

- Fast setup and configuration
- Intuitive & Intelligent Pictorial Web GUI
- Predefined Link Types & Associated
- Dual Hop / Last Mile Emulation
- Geolocation Network Latency Calculator
- Multiple Concurrent Links (Paths)
- Real-World Network Conditions
- Graphs, Statistics & Packet Capture
- Network Scenario Builder
- Reports
- Multi-User
- External Integration - RESTful API
- Packet Capture and Replay

Rapid recreation of real-world networks

TheNE-ONE Professional Edition has beendesigned with ease-of-use in mind. Whether you are an Application Developer, Software Tester, Network Engineer or a Systems Architect, it will enable you to quickly and easily recreate a wide range of realistic networks (LAN, WAN, Internet, Cloud, WiFi, (A)DSL, Mobile, Satellite, etc.) in order to test application performance and resilience in that network.

Intuitive and intelligent web GUI

Createaccurate,controllable and repeatable test networks for organizations of all sizes. NE-ONE Professional simplifies the creation of point-to-point and dual-hop networks with fast setup that is easily deployed, controlled and managed.

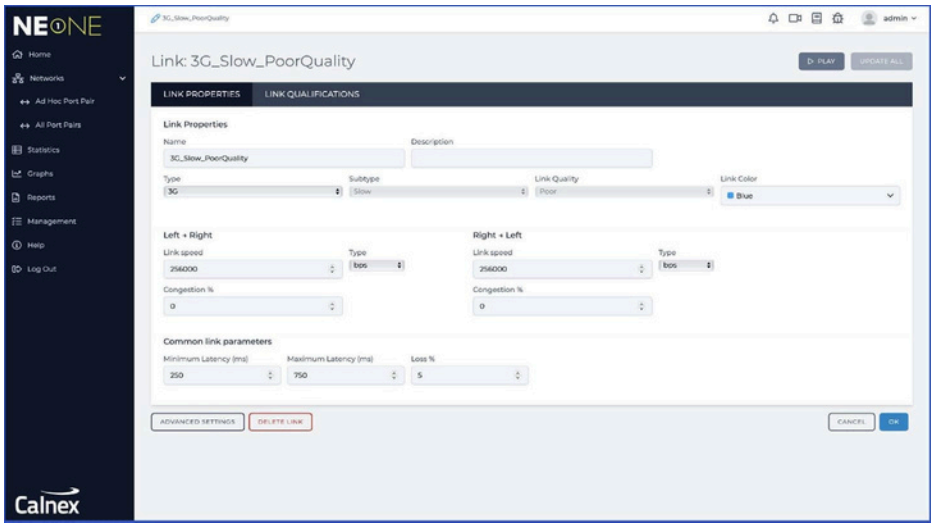
Auto configuration - removing the guess work

NE-ONE Professional has arangeof Auto-Configurationcapabilitiesto save you time and remove the guess work or need to be a network specialist when setting up your test network.



Geolocation network latency calculator

Imagine youneed to emulate a link from New York to London but you're unsure of what latency to use. NE-ONE Professional comes with a catalogue of over 42,000 locations, so simply choose the required start and end point locations and NE-ONE Professional will calculate and insert the base latency for a typical WAN circuit.



Predefined link types and associated properties

You know thatyou needto testinaparticularnetwork suchas 5G, Starlink or some other type of network but how do you go about creating a range of real-world network experiences? Drawing on our expertise, we have populated the NE-ONE Professional with representative latency, loss, bandwidth, etc. values reflecting Excellent, Good, Average and Poor link qualities experienced in real networks. However, for more experienced users or where specific conditions need to be configured, NE-ONE's comprehensive impairment libary allows you to have complete control over the quality of the test network.

Network scenario builder and player

The uniquedrag &drop NetworkScenarioBuilder &Player lets you easily create time-based network scenarios to test how applications handle variations in network quality and availability. It allows you to rapidly create real world situations by combining network experiences together to be run over time.

The realism of the network experience can be further enhanced by adding intelligent transitions between each element. Transitions define how NE-ONE Professional will handle the changes, for example a variable transition from a 4G to 5G network or perhaps a momentary outage between the change.

NE-ONE Professional's Scenario Builder comes with a number of example network scenarios including office, coffee shop, underground station, car journey, cruise ship and train. Each scenario provides a realistic representation of what can happen to the network conditions when a user's location changes and application performance is affected.

The Network Scenario Builder will transition from one network experience to another



Network Scenario Builder
Create chronological network experiences using built-in transitions to mimic what happens when networks change in the real-world.

Drag And Drop
Drag and drop different network conditions to build fully automated testing scenarios.

Use the NE-ONE to test:

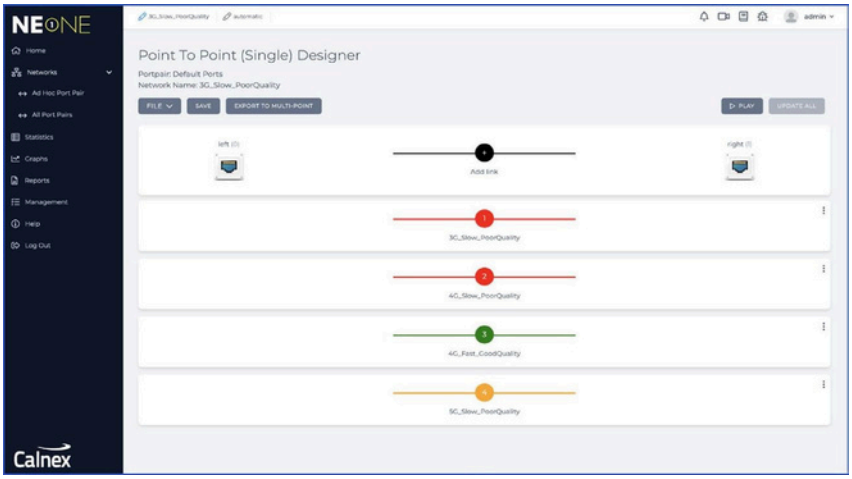
- Defense application resilience testing
- Enterprise application performance testing
- Server and data center migration
- SD-WAN proof of concepts
- Healthcare equipment testing
- IoT testing
- Satellite link emulation
- Broadcast QoS
- Cloud migration
- Gaming and entertainment media QA
- Radio over IP testing
- WAN & Network Simulation
- Remote worker infrastructure testing

NE-ONE is used across industry sectors including:

- Broadcasting
- Chemical & Oil
- Communications
- Defense
- Education
- Finance
- Games
- Government
- Healthcare
- Logistics
- Manufacturing
- Professional Services
- Retail
- Space/Satellite
- Technology
- Utilities

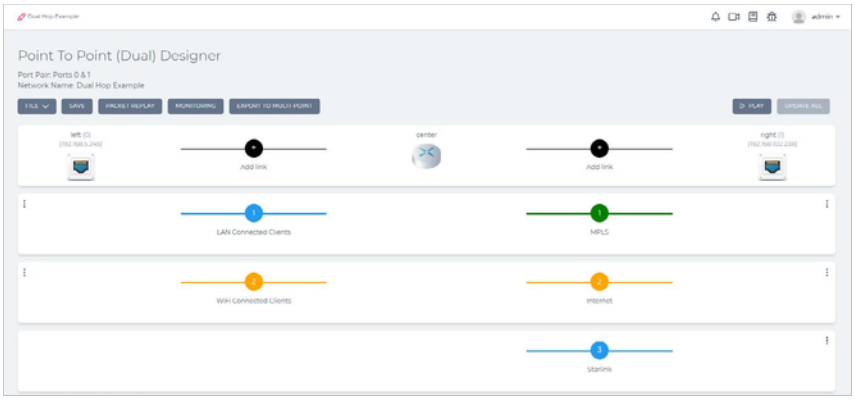
Multiple concurrent links (paths)

Easilycreate accurate, controllable and repeatable test networks for organizations of all sizes. NE-ONE Professional simplifies the creation of test networks from a single point-to-point link to multiple concurrent connections, each with its own unique set of network characteristics.



Dual hop / last mile emulation

Frequently,realnetworks comprise more than a single segment. There is often another significant portion of the network chain, including a “last mile” hop. NE-ONE Professional handles this with its easy-to-use Dual-Hop capability.

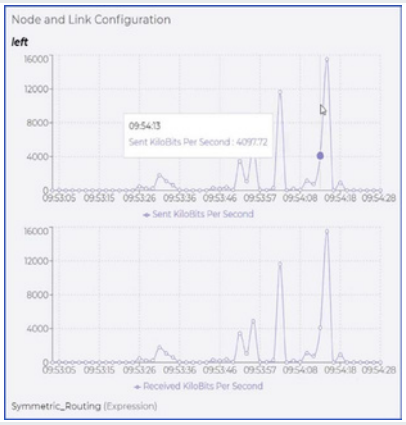


Real-world conditions

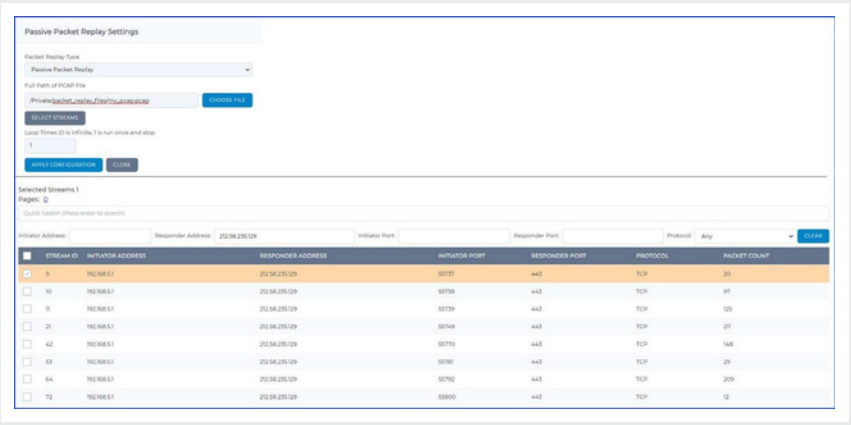
InAdvancedMode, NE-ONE Professional provides access to more than 50 network impairments that create accurate, realistic, repeatable and controllable network conditions. Each of these are further customizable to enhance the realism of your test setup.

Traffic Generation – Not Required!

Noneedfor trafficgenerators ifall youwanttodois create background congestion: NE-ONE's built-in **congestion modeling** eliminates the need for expensive and difficult to integrate traffic generators, where the sole aim is to create congested links.



NE-ONE's built-in graphing feature



NE-ONE's packet replay feature showing stream selection

Graphs statisics and packet capture

NE-ONE Professional'sbuilt-in graphing featureallows you to view and compare key network performance metrics in the GUI. Statistics can be exported for use in analytical tools enabling you to visualize and understand how the applications are being affected by changes in the network.

Packet Capture & Replay

UseNE-ONE's packetreplayfeature to play back traffic, once or multiple times, across the test network to generate foreground or background traffic. While packet capture files can be large and complex, making it difficult to identify application flows to replay, NE-ONE automatically analyzes and displays application flows, together with conversations between clients and servers, making it easy to select from the web GUI.

Reports

NE-ONEProfessional's reports provide you with instant visibility into how the test network was configured and how it was used. The ability to instantly see key performance metrics allow you to quickly identify application inefficiencies and reduce the amount of time spent troubleshooting.

Configuration Report: Lists all settings including nodes, links, routing, bandwidth and impairments about the configuration of a Test Network.

Test Report: Provides all of the information from the Configuration Report, together with graphs that show how much data was transferred across each Link and Node.

External integration via RESTful API

NE-ONEenablesuserstoautomatechangingnetwork conditions from functional and/or performance test tools or scripts.

NE-ONE's powerful **RESTful API** can be used to automatically create, control and teardown test networks on demand from external applications and tools like Python, Selenium and shell scripts (via CURL). Every single GUI operation has a RESTful API equivalent that enables easy integration, therefore reducing complexity and development time.

Learn by example: Because you use the same RESTful API that the GUI uses, you can simply capture the GUI's calls and use them yourself, saving substantial amounts of time.

Multi-user

NE-ONE's multi-user design makes it really easy for the administrator to control access to ports and for users to collaborate with each other. Users can work on multiple test network configurations at the same time, within the same browser session, and the built-in file browser allows sharing of test network configurations between users as well as a secure folder to store private configurations.

Furthermore, multi-user also allows two users or teams to simultaneously configure and operate their own individual test networks with independent logins at the same time using the same Appliance. This negates the need to run and maintain two separate emulators.

Production Network Ready

Optionally integrate theNE-ONE into organization-wide protocols such as NTP, DHCP, LDAP or RADIUS single sign-on etc., for authenticating users against their existing login credentials. Add the NE-ONE into standard security and monitoring systems using built-in SNMP support.

LCD control panel

(Desktop Appliance Only)The appliance LCD provides rapid initial configuration. Additionally, test networks can be selected, run and managed through this LCD panel. This is particularly useful when working in labs and comms rooms where it isn't always convenient to connect a device with a web browser

Easy Transition to NE-ONE Enterprise

AstheNE-ONEProfessionalis a sub-setof the NE-ONE Enterprise it's really easy to migrate to NE-ONE Enterprise, therefore protecting your initial investment and future proofing you for more extensive requirements, such as more sophisticated emulation layouts or greater multi-user access.

Appliance Options



Desktop – Up to 1 Gbps



Half-Depth Rack – Up to 10 Gbps



Virtual – Up to 10 Gbps



Cloud – Up to 10 Gbps

Calnex Solutions plc designs, produces and markets test instrumentation solutions for network synchronization, monitoring and emulation.

For more information on Calnex's network emulation products, and how they enable network and application assurance, contact Calnex Solutions today:

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