

INTRODUCING WAN EMULATION INTO VMWARE'S ESXI SERVER.



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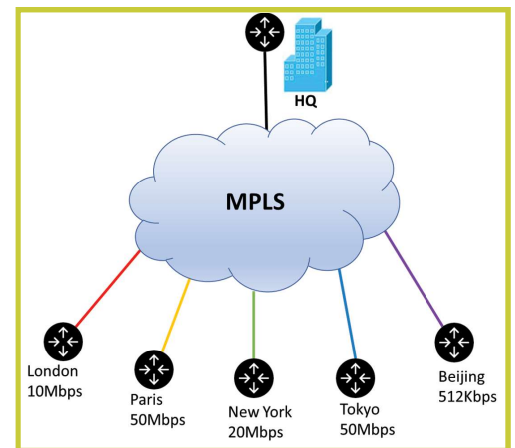
THE CUSTOMER

A leading global B-to-B electrical products and related services distributor spanning 44 countries with over a hundred operating companies.



THE PROBLEM

The company's operations are at numerous global locations and connect over many different types of WANs to the main data centre in the United States. The Director of Network Services needed an efficient method of testing how an application would perform at the various remote locations, each with different WAN characteristics, without physically travelling to every site. Using a Remote Desktop session, to a machine at the remote location, was ruled out as each test must be properly controlled and reliably repeated.



THE REQUIREMENTS

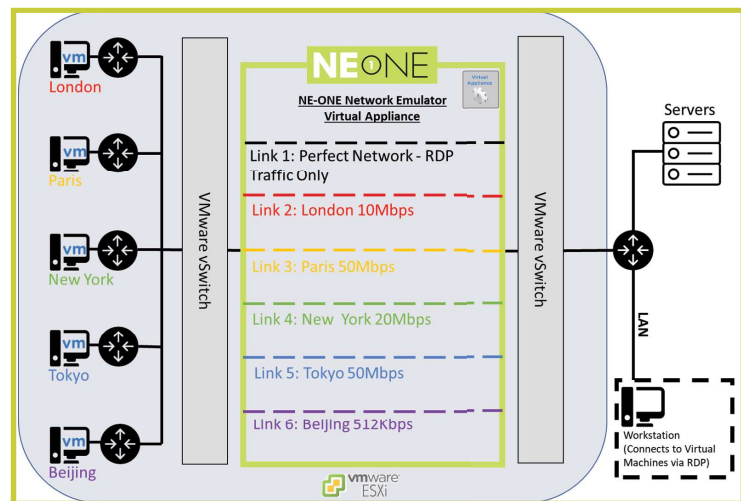
The company had embarked on a virtual only strategy, with the environment now 98% virtualized on VMware's ESXi Server, so a hardware based WAN Emulation solution wasn't possible. Furthermore, in order to conduct realistic testing the Director of Network Services needed a virtual test environment that could:

- Concurrently mimic up to 10 global locations with each one configured with different WAN conditions for bandwidth, latency and packet loss.
- It must be possible to run concurrent testing. For example, a tester could be using one emulated WAN link and another tester using another WAN link without interfering with each other.
- The ability to add congestion to a WAN link, to make it look busy, without using external traffic generators.
- Create additional network conditions as required to mimic what happens in real-world WANs, e.g. packets arriving out-of-order or duplicated packets.
- The tester should be able to remotely control each Windows virtual test machine to conduct application testing as if he was actually sitting at a desk in the remote location.
- The solution must be cost effective and easy to setup and maintain.

THE SOLUTION

A lot of time was spent researching the marketplace as many vendors only sell hardware solutions, not virtual. Free software was also ruled out due to security concerns and accuracy and scalability requirements. Eventually iTrinegy's NE-ONE VMware Certified Appliances were found on the VMware Solution Exchange and the company downloaded a evaluation copy.

The setup and configuration was straightforward as NE-ONE is shipped with three Virtual Network Interfaces. One vNIC is allocated to Network Management so that the user can manage the NE-ONE Appliance and the remaining two are allocated for Network Emulation. One vNIC was connected to a vSwitch that hosted the Windows test computers and the other to a vSwitch that connected to the real LAN. NE-ONE was changed from the default 'bridge' setting and instead configured to route between the vSwitches. WAN circuits for each remote location were defined, each with their own bandwidth, latency and error parameters, and then assigned to each Windows computer's IP Address. An additional link was setup so that RDP traffic from the LAN, where the testers are located, could traverse through the emulator completely unaffected.



KEY BENEFITS

The NE-ONE Flex Network Emulator Model-10 provides a shared test environment so that the testers can experience the same network conditions as if they are actually located at the remote office, anywhere in the world. Predefined network configurations can be quickly loaded from a library of configurations and the required networks created in seconds. This has enabled the team to quickly recreate support issues found in the field and test new versions of code before they are deployed into the production networks. Furthermore, because no hardware is required the solution has provided a lower cost of ownership and easier management.



FREE TRIAL

The NE-ONE Flex Emulator free trial provides you with unrestricted access to all of the features and benefits. To start your free trial:

1. Download the NE-ONE Installation and Configuration Guide & NE-ONE Virtual Appliance Image; both available from the VMware Solution Exchange.
2. Request a licence key.
3. Start your Free Trial.