Case Study: Apposite Technologies

The Value of Network Emulation

Based on live interviews
Custom prepared for Apposite Technologies

INTRODUCTION

Network emulation is an important, but often overlooked aspect of IT management. Too often, major changes to an application, network or infrastructure component are implemented without a clear idea of the short or long-term impact to application performance, user experience or overall network health. Add to this the increasing adoption of modern IT initiatives including cloud, virtualization and mobile deployments along with datacenter consolidation and an explosion of data, and the importance of network emulation technologies becomes even more critical.

By simulating network performance attributes, such as WAN latency, jitter, packet loss or network congestion, network emulation technologies enables IT to simulate any speed, distance or connectivity scenario with precision. The result is better network and application performance, improved customer satisfaction, less time spent troubleshooting performance issues, a reduction in necessary bandwidth and cost savings.

Apposite Technologies provides network emulation solutions that simulate network environments across a wide range of use cases. The company's two types of network emulators, Netropy and Linktropy, provide end-user organizations with options to find the right balance between cost and technology capabilities. Apposite's solutions are deployed by more than 1,000 customers in industries ranging from financial services, telecom and media to tech manufacturing and government.

TRAC Research conducted structured interviews with several Apposite Technologies customers.

This Case Study report from TRAC Research documents four of those instances.

Business Challenge:

Remediating existing applications and testing new applications for datacenter and application consolidation

A multinational Insurance Provider runs thousands of applications that range from Customer Relationship Management (CRM) to VoIP, many of which are homegrown and developed without rigorous testing. The company is currently managing an ongoing datacenter and application consolidation project and seeks to better understand how the project will impact the quality of user experience. More specifically, the organization seeks to gain greater visibility into how individual applications will perform once moved to different data centers and as network conditions change.

Solution

The company utilizes Apposite Technologies emulation products to remediate existing applications and to run new applications in a network test environment prior to any rollouts. Specifically, the company uses Apposite's Netropy product to simulate WAN latency, application moves, noise on the line, and jitter with voice-type applications, as well as how applications would perform if split into modules.

With knowledge of latencies and potential application landing points around the globe, the network infrastructure team is able to proactively mitigate any negative impact that their datacenter and application consolidation project may have had on the quality of user experience.

Results and benefits

The organization reported numerous benefits and a high level of satisfaction from using the product, indicating that they were "…very pleased with the product. It is very intuitive and easy to use. It does exactly what they said it would do". In looking at objectives for their use of the technology they had this to say: "The fundamental concept of the whole program is cost savings and mitigation. As far as the network is concerned, we have met that objective achieving ROI by moving and centralizing applications and bringing the bandwidth back." They went on to say, "It only took half a day to set up, and within one day we had all of our test designs built…the fact that the product supports 10 Gbps links is a huge advantage given our test lab is designed for that." The organization also said that, with thousands of applications and new applications coming online, they have five years of test scenarios mapped out for the use of Apposite Technologies products.

Business Challenge:

Establishing LAN connectivity to a remote site

In this scenario, a large multinational bank was in the process of setting up a remote site far from their main location. Because of the width of the network involved, there was a need to test connectivity between the sites, requiring latencies be built into the network testing environment to simulate the link speeds. The organization needed to be confident that their servers would continue to work at optimal efficiency when connecting to users at remote sites.

> Apposite "allowed them to properly test their applications and have confidence that applications would operate properly over long distances."

Solution

The IT department recognized the need for a network emulator to synthesize the necessary latencies in order to test their traffic. With no solutions in place, it was recommended that the organization use Apposite's Network Emulator. Once this was deployed, the organization was immediately able to gain visibility into an accurate representation of what traffic would look like between their home location and the remote site. With this insight, it was possible to actionably gauge user experience given the latencies inherent in such a distance, and to proactively eliminate performance bottlenecks.

Results and Benefits

The IT staff found Apposite's Network Emulator very easy to use. Specifically, IT was pleased with the product's menu-driven straightforwardness. The staff was able to plug in the variables they needed and run emulations at whatever speeds they were trying to establish connectivity for. This allowed them to properly test their applications and have confidence that applications would operate properly over long distances.

Business Challenge:

Undiscovered anomalies reaching the end user

A Global Investment Management Firm was experiencing problems with application performance. Worse, these problems were going undiscovered until they were already in the field. The company was finding that an application would operate well on the local network, but would exhibit poor performance when deployed on the WAN. Additionally, the company was looking to get more visibility into resources needed for ensuring optimal performance of applications over the WAN. It was becoming critical to set up a testing environment to aid in capacity planning and to offer visibility into the quality of the end user experience.

Solution

The company was looking for a solution that can be effective when deployed in combination with other testing tools, such as HP's Performance Center. The company deployed multiple Linktropy products from Apposite, and, as a result, IT was able to deliver an accurate picture of the effect of WAN conditions on the end user experience. Rather than waiting for an issue to impact an end-user, the organization was now able to proactively detect and troubleshoot issues. The solution has now been in place for more than five years, and is still used consistently with parameters changing on a weekly basis, and is occasionally also used for special projects. Part of the company's IT environment is continuously in evaluation mode, while other parts are being tested on an ad-hoc basis. One of the Network Engineers at the company had this to say, "One of the key strengths of Apposite's products is a combination of visibility into both WAN latency and application speed. This allows us to eliminate bottlenecks for optimal application performance while having visibility into the quality of user experience."

Results and Benefits

With Apposite's network emulator in place, the organization was able to identify applications that needed to be re-designed for better WAN performance as well as to accurately define requirements before applications were purchased and deployed. Additionally, time spent troubleshooting and isolating issue causes has been greatly reduced, allowing IT to direct resources towards more productive and business-forward tasks. The organization had been having trouble finding acceptable tools for managing application performance across networks, and found Apposite's network emulation to help immensely.

Business Challenge:

Trying to prove application efficiency for datacenter implementation

The Director of Systems Architecture at a large IT Infrastructure provider was charged with evaluating new technologies to determine if they should become a part of the company's offerings. The Director's team needed to prove application responsiveness over the ten different markets for which they are a primary datacenter provider. The trials their offerings would face were overall user experience from home sites, and network latency. In reality, applications would work fine in the testing and preproduction stages, but once they went into the field, serious issues would crop up. The organization needed to gain more visibility into the impact of corporate network and Cloud latency (including T1 links) on the quality of user experience.

> *"ROI investigation showed that the [Apposite] solution was vastly superior to other options in terms of cost vs. capability."*

Solution

The organization began using Apposite's network emulators in October of 2011. When comparing performance before and after deploying Apposite's Netropy products they reported: "Before, we just believed that everything will work. Now we know with 100% accuracy what will not work in production." Once the company deployed Apposite's network emulation solution, results were seen almost immediately. The application exceeded expectations on many levels, including usability. The organization found that even those staff members who didn't quite understand the solution could use it without extensive training.

Results and Benefits

ROI investigation showed that the solution was vastly superior to other options in terms of cost vs. capability. The organization reported that everything worked as advertised, and that the flexibility of the solution allowed them to avoid feeling "locked in" to anything at the time of implementation. The organization also reported that the Apposite solution stood "head and shoulders above other evaluated solutions" as they found other products "too expensive and limited in capabilities" based on their specific needs.

Summary and key takeaways

Network emulation offers visibility into projected end-user experience over a range of use cases, such as datacenter and application consolidation, new technology rollouts, changes in network topology, cloud migrations, WAN optimization deployments, etc. The key value of the technology lies in delivering relevant and actionable data to the IT staff looking to understand bottlenecks for optimal application performance. IT is then better able to proactively address performance issues before they impact business users. This allows organizations to conduct their key IT projects, while mitigating concern for war-room scenarios and time-wasting troubleshooting down the road. As a result, network emulation is playing an increasingly important role in the enterprise, as it has become a key enabler for effectively addressing key challenges around network and application performance management.

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ABOUT TRAC RESEARCH

TRAC Research is a business-to-business (B2B) market research and analyst company that specializes in IT performance management. The company's research approach is based on four key attributes of true market research: Trusted, Relevant, Actionable and Credible. Our mission is to facilitate open conversations between technology vendors and end-users centered around unbiased, primary market research. Areas of coverage include: managing application performance over the WAN, application performance monitoring, Business Service Management (BSM), network monitoring, end-user experience monitoring, application delivery, managed network services, virtualization management, Cloud management and data center management. For more information about TRAC Research visit www.trac-research.com.

ABOUT APPOSITE TECHNOLOGIES

Apposite Technologies makes WAN emulation easy by offering professional-quality network emulation tools at affordable prices. Apposite's Netropy and Linktropy WAN emulation appliances simulate bandwidth, latency, loss, congestion, and other network impairments with fine-grained precision to provide accurate simulations of any type of wide-area network. Netropy and Linktropy WAN emulators are widely deployed by leading enterprises, application and equipment developers, telecoms carriers, and government and military organizations around the world. *Apposite Technologies – WAN Emulation Made Easy*