

nGeniusPULSE for SaaS Monitoring

The use of SaaS applications for critical business services continues to grow. “Software as a Service (SaaS) will be the largest category of cloud computing, capturing more than half of all public cloud spending in throughout the forecast.” (2019-2023)¹ While the advantages of rapid delivery, ease of access, and hardware cost savings are compelling and becoming expected in many organizations, SaaS usage can present challenges to IT teams.

Issue

The top priority in any adoption of SaaS by an organization is that the end-user experience needs to be as good or better than what the company’s last application delivered to their users. SaaS providers sometimes set expectations for performance in the form of service level agreements. However, a key concern is the lack of visibility into the availability and performance of the SaaS applications from the end-user perspective. It is often difficult for IT to “see” what the user is experiencing and to determine the cause of latency and performance issues.

When companies use a SaaS vendor, they have less control and depend on that 3rd-party for continuous uptime and service delivery. Management becomes that much more complicated due to the variety of places (corporate headquarters, regional offices, customer locations, cafes, or home offices) and access methods (ethernet or Wi-Fi) end users are trying to connect from. When slow, it can be challenging and prove difficult to pinpoint trouble spots.

Organizations must ensure their business-critical communication and collaboration services such as Cisco Webex™, Microsoft® Office 365 and Skype® for Business, along with other SaaS services including Salesforce.com, Workday®, and others for VoIP, ERP, CRM, and Financial services, are always available to users.

Impact

When users at headquarters, remote sites, home offices, or other locations, cannot access the SaaS applications, they may not be able to provide timely customer service or collaborate with their peers. Even when they do have access, if the performance is delayed or poor quality, it will cause missed deadlines and eventually lost revenue. All of this leads to frustration, which results in multiple and escalating calls to the Help Desk for resolution.

There is also frustration for the IT teams providing support. At times, they do not see the same issues from the headquarters as are being reported from remote users. They spend excessive time working to identify the problem and then communicating back and forth with various SaaS vendors and Internet Service Providers (ISPs) to isolate the root-cause.

¹ Worldwide Public Cloud Services Spending Will More Than Double by 2023, According to IDC July, 3, 2019
<https://www.idc.com/getdoc.jsp?containerId=prUS45340719>

Troubleshooting

Since SaaS services do not traverse a corporate network that may already be instrumented with NETSCOUT® solutions, IT needs a different type of visibility for SaaS applications at the remote locations. To gain visibility into the performance of these SaaS applications from remote sites, many organizations have implemented NETSCOUT nGenius®PULSE, which provides active, synthetic testing to monitor the health and availability of critical SaaS applications— running tests every few minutes, even when no one is on the system. nGeniusPULSE instrumentation, called nPoints, can be deployed with a small purpose-built hardware device or as a software agent on Windows or Linux machines such as laptops, servers, or VMs – or even emailed to a remote user who is having issues to help diagnose the problem. This is especially useful when troubleshooting a problem at a remote location where IT does not already have instrumentation.

The continuous, automated tests in nGeniusPULSE send alerts if there are access problems even before users are impacted. Furthermore, because nGeniusPULSE breaks down the end-user experience into components of the transaction: DNS, SSL, Network, Client, Application, and Server delay, IT teams are able to pinpoint the root cause of the slow performance. In the example below, (figure 1), it is readily apparent that the largest portion of performance delay is due to the network.



Figure 1: Web Test End-User Experience Breakdown.

Understanding that this is a network issue, the IT team can look at the path analysis being run for each test – showing a hop-by-hop depiction of the transaction and where delays were occurring. (figure 2) In this example, significant latency was being introduced because an ISP was suddenly routing traffic through Germany, rather than the U.S. as normal.

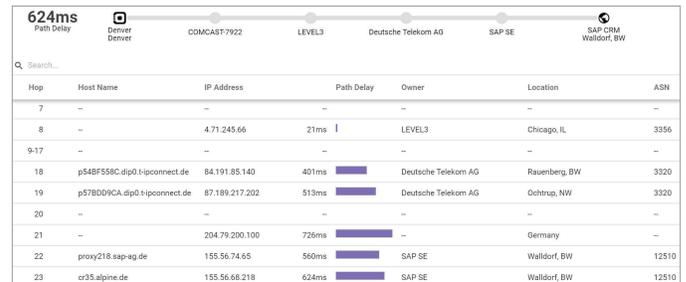


Figure 2: Web Transaction Path Analysis.

With this knowledge, it is important to compare latency from other locations to ensure there is not a company-wide issue accessing this SaaS service. Using nGeniusPULSE to perform “Web Test Now” testing, IT can see the path analysis details, including total response time, total number of hops and latency between each hop. By using this “on-demand” test, IT can quickly determine this issue is only affecting its Denver location as their other sites are responding normally in the 1-second range and traffic is routing through the U.S. (figures 3 & 4).



Figure 3: Web Test Now – Test Details by Site.

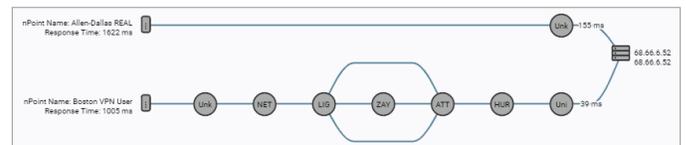


Figure 4: Web Test Now – Path Details.

Once the network issues is resolved, the company could implement “Business Transaction Testing” (BTT) to perform tests of the SaaS application from login-to-logout to pinpoint if there were delays in performing a specific function within the application itself

Remediations

Using the results from the nGeniusPULSE tests, IT can discover if there are multiple issues affecting performance. In the above example, by looking at the latency between the hops, the IT staff could identify where in the network latency was occurring and uncover routing issues by an ISP – with the added benefit of exonerating their own network. Once identified, these constraints could be addressed with the network team and service provider.

Other tests results provide data that proves some of the problems are with the SaaS application and could even pinpoint include specific actions within the application. Having the specific results to share with the SaaS vendors reduces the time spent identifying the issue and accelerates resolution.

Summary

As organizations continue to rely more heavily on SaaS applications, it is imperative that IT be able to provide support to users who need to perform critical business activities, regardless of where they are located. For many customers, NETSCOUT's nGeniusPULSE provides visibility to how SaaS applications are performing at their remote sites and where delays are occurring. The continuous, automated tests make them aware of potential problems and provide the data needed to isolate and resolve issues, both in the network and with their SaaS vendors, ensuring employees can perform their jobs to expectations.



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