NETSCOUT

nGeniusPULSE for Remote Users

What does "remote site" mean in your organization? Historically for IT, "remote" meant a branch office or physical business location, such as a warehouse, factory, store, or bank branch that is away from headquarters. That is still the case for many organizations, including customers with a few or many thousands of locations. For other enterprises who manage business and educational campuses, "remote" may mean different buildings, or maybe different floors in buildings.

However, in many organizations the definition is rapidly evolving. With some employees working from home either full or part-time - and even more during emergency situations - an individual can now be considered a "remote site" from the IT viewpoint! The definition has further expanded with the proliferation of IoT devices, such as forklifts, hospital computer carts, construction equipment, and an almost unlimited number of other devices.

Today a "remote site" is anywhere people or devices need access to business services required to perform their job, whether those services are on-premise, hosted in the cloud, or delivered by a 3rd-party SaaS vendor. This trend brings new challenges for IT, especially when the number of remote sites increases quickly.

When people are working from remote site locations, they may have unanticipated difficulty accessing business service applications and/or experience slow response time while using the application. In addition to business applications, including CRM and Point of Sale applications, some of these services may be the communication and collaboration tools, i.e. email, instant messaging and calls using VoIP – that people use to stay in touch with their co-workers and customers.

Lack of access impacts work productivity – with ripple effects throughout the organization. If users can't access applications or communication tools to complete work, customer service and other functions will suffer. Even if they can access it, if users experience slow or interrupted service, they may not be able to do their job effectively and become frustrated. Eventually, the continual disruptions can lead to loss of production or service delivery which could result in lost revenue and/or increased costs.

Remote Users Issues Solved With nGeniusPULSE

Lack of visibility from the user perspective, combined with the absence of on-site IT staff to assist local users when issues occur, can lead to an excessive number of help-desk calls, putting IT in a reactive-only mode. It is not easy to identify if an issue is due to the application, the internal or external network, or isolated to one or a group of users or sites. Extra time is spent going back and forth with the user to identify and then verify the issue, before troubleshooting can even start.

Many customers have selected NETSCOUT's nGeniusPULSE to give them visibility from

remote sites. nGeniusPULSE uses synthetic testing to monitor application and network availability and performance. When an issue occurs, nGeniusPULSE provides key data to determine the problem domain, speeding Mean-Time-to- Resolve (MTTR). IT can rely on nGeniusPULSE for visibility into:

- **Performance from the user perspective** with instrumentation – called nPoints – deployed at the user site. Options include a small, purpose-built hardware device or virtual instrumentation that can be deployed on a remote-users' laptop – ideal for branch office and home-based users.
- **Emergence of application degradations and failures** with automated, continuous tests enabling IT to see if an application or location is experiencing performance issues, often before users are impacted.
- **Issues related to poor internet performance** with hop-by-hop Path Analysis to pinpoint where latency is impacting response time.
- **Problems with local Wi-Fi** with application tests run over Wi-Fi and ethernet to compare performance and isolate if an issue is due to local Wi-Fi or something else.
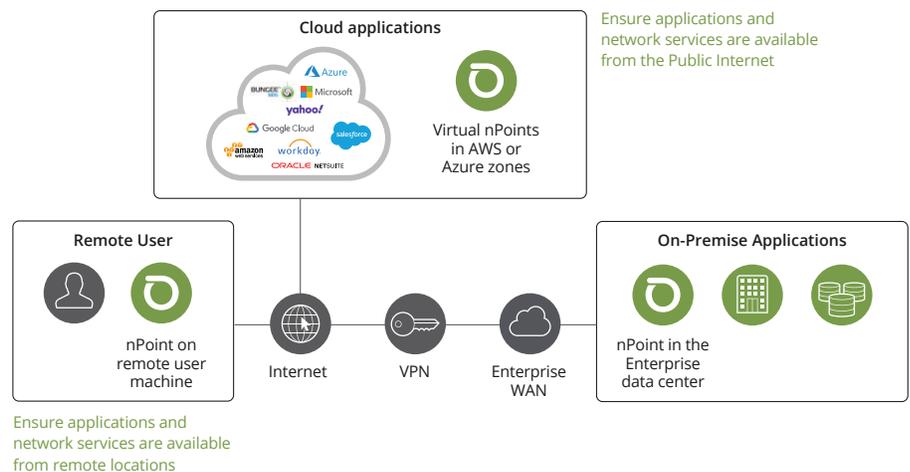

Figure1: Ensure Remote User Connectivity with nGeniusPULSE.

Support for Remote Users with nGeniusPULSE

Using nGeniusPULSE, IT can run a variety of tests over Ethernet and Wi-Fi, to identify and isolate when and where an issue has, or may, occur for remote sites/users. NETSCOUT customers can use tests such as these to support remote users:

Availability of SaaS, external services, third-party web sites

- Web tests are run to the public web sites for any SaaS or other external service to ensure user access. Examples include: Microsoft 365®, Google Apps™ productivity and collaboration tools, Salesforce® solutions, workforce collaboration sites such as Cisco Webex™, Microsoft®Teams, etc.
- Ping and port tests are run to external servers and sites to ensure IP access
- Business Transaction Test for performance in a SaaS or other application to evaluate responsiveness of the site and to the log-in process, for example. (Other tests are available)

Availability of internal services, servers and resources

- Web, ping, port latency and other tests to monitored locations
- Ping or port test to a target that is accessible to every monitored site's VPN connection to isolate faults to VPN issue or internal routes
- Bandwidth tests to ensure internet connectivity and performance

Availability of VPNs

- Ping or port tests to each VPN gateway used by a monitored site
- Web Test to VPN sites to ensure accessibility

Availability of DNS

- Using a custom test, see the response time and availability of the monitored site host's default DNS server

Availability of ISPs

- Use Web Test path analysis for troubleshooting ISPs, access network, and service provider network issues

- Ping or Web Test to a common URL (e.g., google.com) to help isolate faults to a home-user network or ISP
- Use tags and filters to group sites by ISP or region to see common problem spots

Health and Usage of VPN

- Create custom tests to monitor VPN gateways for active connections and health status. Effective for determining if VPN is at or near capacity, and if other issues are impacting employees' connections

Bandwidth, Loss, Latency, and Jitter Testing

- Ensure throughput is strong enough to support video calls and access to business applications
- Validate bandwidth from users' location with iPerf test from their virtual nPoint back to the Data Center or iPerf server in the cloud; or perform loss, latency, or jitter tests to ensure network is performing at the user's end

Once tests are run, IT can see view the status on several easy to-read dashboards. The Services Overview Dashboard, with a Green-Yellow-Red display shows application status by site, readily highlighting the impact and scope of the issue:

- Is the application having problems at multiple or all sites, or is it isolated to a specific site?
- Is that site having problems with all applications or just one?
- Can that site access internal and external networks?

Drilldowns from the Dashboards to specific test results reveal potential causes of disruptive issues including DNS, network, application, server, and client delay as well as displaying hop-by-hop path analysis from site to host with latency displayed for each hop. Once the problem domain is isolated, the appropriate IT team can be notified with specific data to quickly act, speeding resolution and reducing impact on users.

Benefits of nGeniusPULSE for Remote Users

- "Be There" Gain visibility to availability and performance of network and applications from remote sites
- Streamline troubleshooting with early warning of issues
- Reduce Mean-Time-to-Resolve (MTTR) with ability to quickly identify problem domain and assign to appropriate IT team
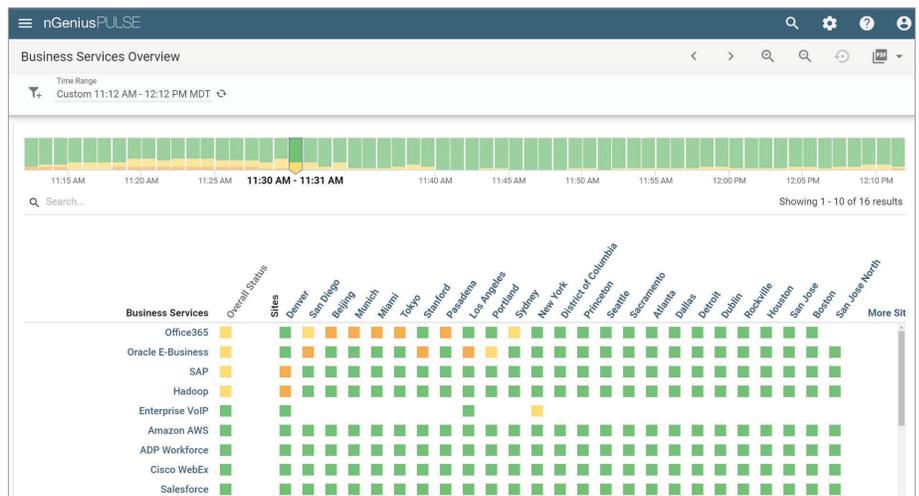- Improve remote site user experience, increasing overall efficiency and productivity

Figure 2: Services Overview Dashboard. Business Service Status by Site.

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