

## nGeniusPULSE for Remote Users

The global hybrid workforce transition has moved employees to the client edge of enterprise business networks, with remote users now distributed across work-from-home (WFH) and branch office locations. When employees work remotely, they may experience difficulties accessing business applications or issues with slow responsiveness. In addition to business applications (e.g., customer relationship management and point-of-sale), Unified Communications as a Service (UCaaS) solutions are critical for remote user interactions with customers, partners, and colleagues. In these remote environments, lack of access and responsiveness impacts work productivity – with ripple effects throughout the organization. If users cannot reliably access applications or UCaaS tools to complete work, customer service and other functions will suffer.

Along with remote users, the information technology (IT) efforts focused on visualizing “remote site” performance have evolved to now include Internet of Things (IoT) devices (e.g., “hospital carts on wheels,” manufacturing lines, and pharmaceutical applications), as well as branch offices, satellite facilities, and WFH environments where today’s employees are based.

These transformations bring new challenges to the IT teams working to assure the collective end-user experience of thousands of remote users employed in these increasingly mobile work environments, as well as high-quality performance from business-critical IoT devices.

Lack of visibility from the end-user’s 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 tickets and over-reliance on reactive troubleshooting rather than effective proactive monitoring promoting high-quality business service performance. Quite often, IT can spend several hours or days communicating with an end-user to identify and then verify the issue - before troubleshooting can even start!

### Remote Office and End-User Issue Solved With nGeniusPULSE

The NETSCOUT® nGenius®PULSE solution monitors access to critical services from the client edge perspective, including Cloud/UCaaS, Wi-Fi, Voice over IP (VoIP), network, applications, and infrastructure. nGeniusPULSE monitors access to applications and services from business locations by using automated, continuous user emulation and network testing that provides proactive problem detection and identification. In this fashion, nGeniusPULSE is well-suited for on-premises, virtual, or cloud server deployments, using hardware and virtual sensors that conduct synthetic testing into end-user experience.

By offering these capabilities, IT Operations can rely on nGeniusPULSE for visibility into the environments seen in Figure 1.

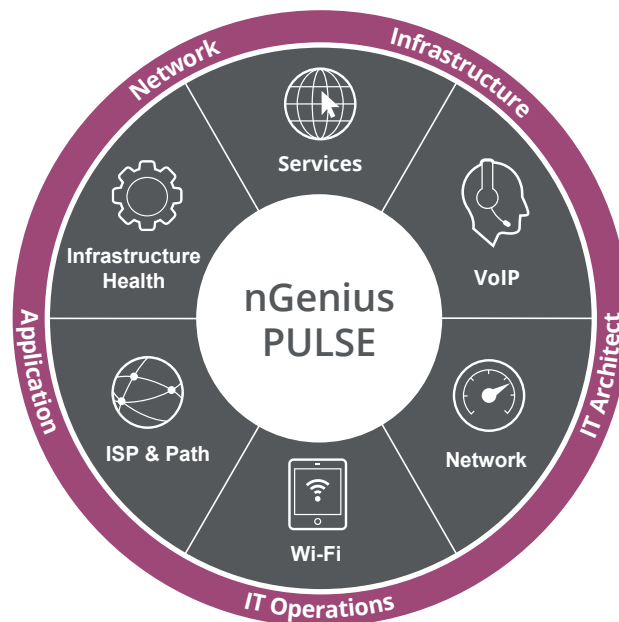


Figure 1: nGeniusPULSE ensures services are available to remote business locations and monitors access and performance of critical services from the end-user’s perspective.

IT Operations can rely on nGeniusPULSE for visibility into:

- **Emergence of application degradations and failures**, with automated, continuous tests that enable 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.
- **Regional Wi-Fi problems**, with application tests run over wireless and ethernet to compare performance and isolate if an issue relates to local Wi-Fi or another factor.

### Assuring High-Quality Remote User Experience With nGeniusPULSE Synthetic Testing

Using nGeniusPULSE, IT Operations can run a variety of tests over ethernet and Wi-Fi to identify and to support high-quality end-user experience in remote offices, including the following:

- **Availability of SaaS, UCaaS, external services, and third-party websites:** Ensures remote user access to business services that include Microsoft Office 365®, Google Apps™, Oracle, SAP, ADP Workforce, and ServiceNow, as well as UCaaS Business Transaction Tests for Cisco Webex, Microsoft Teams, and Zoom with WebRTC audio and video support on nPoint 3000H and nPoint 3000V nPoint sensors.
- **VoIP Monitoring:** Identifies VoIP service availability and call quality issues, with testing into site-to-site performance and external availability into call centers. VoIP tests can be run with an nGeniusPULSE nPoint calling another nPoint or phone directly, without a call manager or SIP server.
- **Availability of internal services, servers, and resources:** Detailed views into remote office locations and business regions that enable IT Operations to isolate problems related to service provider, network, location, or configuration.

- **VPN accessibility and performance monitoring:** nGeniusPULSE Dashboard and Monitor snapshots into VPN bandwidth, as well as Cisco AnyConnect Client statistics into VPN connection availability.
- **DNS availability:** Views into response time and availability of the monitored site host's default DNS server.
- **ISP availability:** Provides Web Test path analysis for troubleshooting ISPs, access networks, and service provider network issues. Ping or Web Tests to a common URL (e.g., google.com) help isolate faults to a home-user network or ISP. Uses tags and filters to group sites by ISP or region to see common problem spots.
- **Infrastructure monitoring:** Monitor CPU and memory for devices with private MIBs, including Cisco ASR, Fortinet, F5, and Huawei devices.

Drilldowns from nGeniusPULSE Sites Overview and Business Services Overview dashboards enable IT Operations to access specific synthetic test results to advance troubleshooting into potential causes of disruptive issues (e.g., DNS, network, application, server, and client delays). Additionally, nGeniusPULSE displays hop-by-hop path analysis from site-to host, with latency displayed for each hop. Once the problem domain is isolated, the appropriate IT Operations team can be notified with specific data to quickly act, which reduces mean-time-to-repair (MTTR) cycles and limits user impact.

### NETSCOUT Smart Edge Monitoring Support

nGeniusPULSE can be deployed as part of our Smart Edge Monitoring solution, leveraging a NETSCOUT Cloud Adaptor in InfiniStreamNG® and vSTREAM® appliances to integrate analysis and early-warning metrics (based on nPoint synthetic test results into user experience) that are transitioned into NETSCOUT Adaptive Service Intelligence for alarming, viewing, trending, and contextual workflows in the nGeniusONE Service Assurance platform. As a result, the Smart Edge Monitoring solution enhances IT Operations' visibility across all service edges for real-time monitoring into how today's users access any application service, anywhere.

### Benefits of nGeniusPULSE for Remote Users

nGeniusPULSE provides the following benefits to IT Operations tasked with assuring high-quality experience for today's remote users:

- Gain visibility into availability and performance of network and applications from remote sites.
- Streamline troubleshooting, with early warning of issues.
- Reduce MTTR, with enhanced ability to quickly identify problem domains and assign them to an appropriate IT Operations team.
- Improve remote site user experience, increasing overall efficiency and productivity.
- Enhance visualization into the performance of IoT devices located in healthcare, research labs, and the manufacturing floor



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