

nGeniusONE Platform for Retail

Service Assurance for Retail IT

The retail industry is undergoing a period of upheaval, as old ways of doing business are shaken up, and new ways are still evolving. Digital transformation is a significant driver for change, as new capabilities in IoT, Cloud, Mobility, and Big Data offer the reward of competitive advantages to adopters. Consumer buying is shifting, and retail businesses need to keep up. IT teams in retail organizations are working harder than ever to keep pace with evolving technological innovation to deliver always on service to the business.

E-commerce applications, enterprise resource planning (ERP), warehouse management applications, point of sale software and more, all depend on the smooth performance of a complex inter-relationship of networks, servers, applications, and critical service enablers. With so many possible areas that could contribute to performance degradation, IT teams need a robust troubleshooting and performance management solution capable of providing visibility without borders and rapidly isolating faults across multiple domains.

nGeniusONE® platform provides real-time visibility into the performance of application services by analyzing packet data across the network, on premises or in the cloud. Powered by Adaptive Service Intelligence™ (ASI) technology, the highly scalable and patented deep-packet inspection engine, the nGeniusONE platform provides IT organizations with a comprehensive view of retail service performance across the service delivery environment. nGeniusONE leverages high-value packet data to generate “smart data” for smarter analytics to assure performance, manage risk, and facilitate superior decision-making regarding application and network services. With these smarter analytics, IT teams can quickly triage performance issues even in complex multivendor environments, ultimately reducing Mean Time to Repair (MTTR).

Performance Issues Solved By the nGeniusONE Platform

nGeniusONE delivers end-to-end visibility into the performance of an integrated retail application environment including

end users, proxy servers, load balancers, service enablers, backend database servers, application and web services, as well as the underlying network infrastructure. As a result, nGeniusONE uncovers service anomalies contributing to slow application response times and poor user experience including:

- **Session latencies** – nGeniusONE tracks performance by monitoring session response times between clients and servers. For database, middleware, web, and other specialized applications, the platform differentiates between different message types, independently reporting on the performance characteristics. With the information provided, IT teams can identify the root cause of application slowness, including possibly database connect times, credit card transaction failures, or even backend issues such as DNS failures.
- **Application errors and messages** – Important application errors and messages are automatically discovered, allowing IT teams to proactively investigate root causes of performance issues. Causes could include failures, bottlenecked performance, out of memory conditions, out of resource conditions and more.
- **Manage web-based applications** – Since HTTP and HTTPS traffic flows are analyzed by ASI, IT teams can monitor web-based applications whether deployed On-Premise or in the Cloud.
- **Monitor expiration and validity of SSL certificates** – IT teams can proactively monitor the validity and expiration of SSL certificates. As a result of this visibility, organizations can be assured that retail applications and end-users are protected from security related incidents.
- **User impact** – IT teams get visibility into which community of users is affected, or which particular store or other location is impacted by the problem. nGeniusONE enables retail IT teams to understand quickly which users or locations are affected by a performance degradation and how their service is impaired.

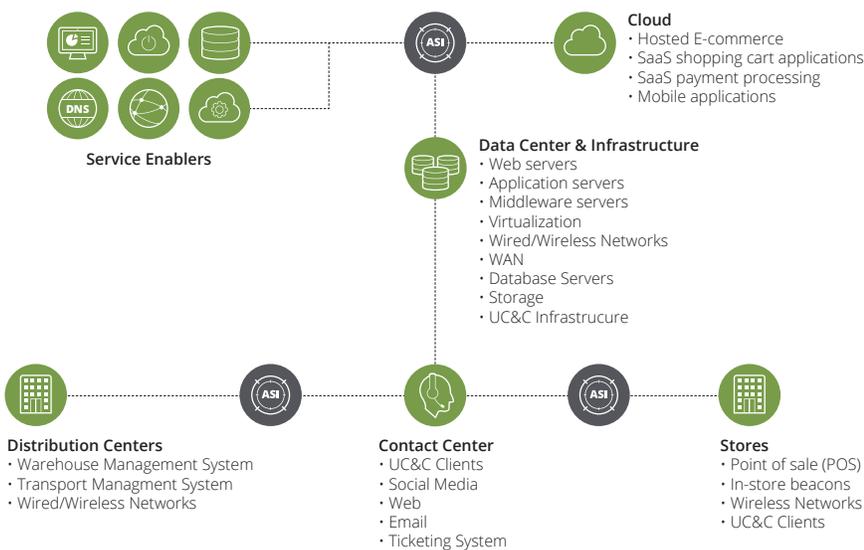


Figure 1: nGeniusONE provides end-to-end visibility into all of the critical systems required to support a successful retail environment.

nGeniusONE Platform Offers Seamless Top-Down Workflows

The nGeniusONE platform relies on the power of ASI to help retail IT teams quickly triage application performance impacting issues. Through continuous monitoring of application traffic, ASI data enables the nGeniusONE solution to provide a holistic service view across components that could potentially degrade application performance. nGeniusONE uses this highly structured data to provide retail organizations with operational insights and visibility into the status of critical performance issues commonly found in retail environments including: network availability and uptime between the datacenter and stores or distribution centers; call quality and service availability in contact centers; wireless and application availability within the distribution centers; and e-commerce site uptime and availability.

The nGeniusONE platform provides retail IT teams with an efficient top-down approach to situational analysis, problem identification, service triage, and resolution. Using a consistent set of service-oriented workflows, the nGeniusONE enables seamless, contextual transitioning across multiple layers of analysis. These workflows allow the nGeniusONE platform to facilitate efficient and informed hand-off of incident response tasks across different IT groups which fosters collaboration, improving the ability of IT teams to quickly identify service quality issues and reduce MTTR.

To help troubleshoot issues related to retail application performance, the nGeniusONE platform provides the following key analysis layers:

- **Service Dashboard** – Delivers real-time health status, metrics, alarms, and intelligent early warning of retail application performance problems. IT teams can use the dashboard to quickly spot performance issues related to a composite service including the web

components, key middleware and service enablers, backend databases, and load balancers in a single view.

- **Service Dependency Map** – Provides visibility into all the dependencies among various components. This feature enables IT teams to analyze the service delivery environment and discover the client-server relationships and their performance.
- **Universal and Specialized Service Monitors** – Enables IT teams to quickly triage and isolate the sources contributing to performance degradation within multi-tier environments, including Web servers, Active Directory servers, application servers, backend databases, load balancers and enabling services to provide holistic visibility into the performance of retail services. Specifically, for critical retail operations, specialized service monitors for Web Services, DNS, Database, IBM MQ and Payment Processing provides performance metrics organized by specific message types. IT Teams leverage these for in-depth root cause analysis of performance degradations.
- **Session Analysis** – Helps IT teams analyze transaction latencies, network statistics such as average round trip time, number of TCP retransmissions, timeouts; as well as detailed session and flow information such as the client IP addresses receiving service from the load balancer, error codes, and server host and client information. Session analysis delivers application details in a ladder diagram with hop-by-hop message exchanges between clients, load balancers, and application servers.
- **Packet Analysis** – Enables IT teams to perform deep-dive protocol level analysis and forensic evidence collection. Expert decodes provide application-specific details as well as a list of IP addresses pertaining to the clients and any proxy servers through which the application request has passed including the load balancing server.

Most performance issues can be efficiently triaged by using the Dashboard and the Universal Monitor screens alone. However, should deep dive troubleshooting be needed, IT teams can contextually drill down to the Session and Packet Analysis layers.

Benefits of nGeniusONE Solution

For retail organizations, NETSCOUT® solutions are designed to provide insights into critical applications and services the business depends on. With NETSCOUT, retail IT organizations can:

- Optimize POS services by monitoring payment processing applications and generating alerts to detect when the transaction rate is slow or errors occur.
- Improve customer shopping experience with end-to-end visibility across the Enterprise, in stores or online.
- Protect call quality in contact centers with custom dashboards and reports showing QoS, MOS scoring, jitter, packet loss, and other key metrics.
- Reduce MTTR by proactively responding to service degradations impacting critical services such as POS, supply chain, or e-commerce.
- Rapid root cause identification by understanding the inter-relationships and interdependencies between different backend applications such as database, web, DNS, DHCP, or SSL certificate authentication.
- Improve IT team collaboration with a single unified view into voice, network and application services providing end-to-end visibility into session-level details.

NETSCOUT®

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