

## Service Assurance for Positive Train Control



### Introduction

Today, more than ever, the value of Positive Train Control (PTC) in transportation safety cannot be understated. PTC, a communications-based technology that analyzes and regulates train movement, is the cornerstone of regulations to reduce collisions, enforce line speeds, and improve rail worker safety. Implementations across the United States were mandated in many major Class 1 railroads as well as with commuter rail operators by Congress with the passage of the the Rail Safety Improvement Act of 2008.

PTC implementations leverage essential elements of enterprise infrastructure to operate efficiently, ensuring that the train receives information regarding its location, speed, and where it is permitted to safely travel. The train has equipment on board to receive this information and enforces it with the goal of avoiding unsafe movement. Any disruption or delay in the communication of this critical information can dramatically impact the safe operation of the train.

Rapid resolution of a PTC service-impacting problem is the highest priority. The large, distributed, multi-vendor environments that PTC is implemented through is enormously complex and presents significant challenges for IT staffs tasked with discovering the root cause of a slowdown or degradation. NETSCOUT® harnesses traffic flow information to proactively monitor and manage these inherent complexities in a cost-effective manner, for rapid troubleshooting and faster Mean-Time-To-Repair (MTTR) for issues impacting service delivery of PTC information.

### Our Approach

NETSCOUT's approach to service assurance is built on a foundation of high-quality data and real-time high quality analytics. Based on network traffic, NETSCOUT's patented Adaptive Service Intelligence™ (ASI) technology provides the most robust data source available to monitor and analyze PTC service delivery throughout the rail enterprise environment. NETSCOUT analytics are the industry-leading standard for scalability and ease-of-use, enabling business and service assurance. Leveraging ASI, the nGeniusONE® Service Assurance platform delivers

unmatched capabilities that ensure the reliable and uninterrupted delivery of critical PTC communications.

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*Rapid triage and faster MTTR for issues impacting service delivery of PTC communications with packet-based visibility from NETSCOUT*

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### Our Solution

The nGeniusONE platform provides unrivaled visibility into IP-based business services along with contextual workflows to speed problem resolution that is both easy for a Level 1 responder to use and powerful for an expert to operate. Rather than look at individual elements in isolation, nGeniusONE provides an overarching view into the performance characteristics of the components associated with service delivery. This view exposes underlying service dependencies that help IT operations to more effectively manage health, availability, and user experience issues and improves the teams' ability to proactively identify and troubleshoot performance issues for quick identification of root cause of problems impacting PTC communications in commuter rail and commercial freight train environments.

The nGeniusONE platform is powered by ASI and generates Key Performance Indicators (KPIs) from analysis of traffic utilization, applications, and database servers and network errors. Providing analysis of more than 1,000 voice, video, and data applications, including PTC, and scalable to support 100 Gbps speeds, the nGeniusONE platform is designed for use in both physical and virtual environments in the worlds' largest and most demanding commercial rail, enterprise, and service provider networks.

## Our Value to Commercial Freight and Commuter Rail Service Operators

The nGeniusONE platform is designed to respond to service disruptions with a combination of powerful capabilities that encompasses three strategic areas for business assurance in today's global enterprises – service assurance, cyber security, and big data applications. With the nGeniusONE solution, IT organizations in commercial freight and commuter rail service operators can:

- Proactively troubleshoot and reduce MTTR for PTC application degradations before they become service outages through analysis of response times, as well as service- and network-related errors
- Improve planning for PTC implementations with traffic-based network capacity analysis for all services throughout the rail system ecosystem

- Migrate to new cloud-based and SaaS environments with confidence using superior data and analytics visibility from nGeniusONE
- Solve problems rapidly to maintain quality delivery of other passenger-experience impacting services, like “Rider Card” use and purchases, Point-of-Sale, credit card authorization, etc.
- Streamline and simplify IT operations with comprehensive business assurance
- Reduce operational costs and complexity with broad visibility and use by the overall IT organization
- Ensure compliance with federal regulations for PTC use and availability, with comprehensive coverage today and into the future

The nGeniusONE platform enables IT staff in commercial freight and commuter rail organizations to rapidly troubleshoot and ensure availability of PTC services so travel can proceed without disruptions.



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