

# Public School District Ensures Quality Performance and End-User Experience for Remote Students With NETSCOUT

## Leverages nGeniusONE for Assuring Remote Learning Services for Students and Teachers

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### OVERVIEW

#### The Challenge

- The network infrastructure and application array available needed to ensure that the educational experience of remote students and teachers was preserved at a high level.
- Monitoring capabilities which were already being upgraded needed to fill gaps and provide visibility throughout the network infrastructure as all students and most teachers became remote users.

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#### The Solution

- nGeniusONE® Service Assurance solution
- InfiniStreamNG® appliances, and vSTREAM® virtual appliances
- nGenius® Packet Flow Switches

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#### The Results

- Student and faculty-facing applications are now comprehensively monitored for performance and availability assurance.
  - Traffic activity is quickly and easily monitored from the data center and cloud to the edge of the network.
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#### Customer Profile

This public school district, which operates over 50 schools, has been using NETSCOUT solutions for over ten years and recently had the opportunity to use funds from the federal CARES Act to address issues which surfaced when the COVID-19 pandemic forced them to shift to 100% remote learning for their students. The district is committed to ensuring that students and teachers have an end-user experience that is outstanding regardless of where they are physically located now, and in the future, as re-balancing to in classroom learning takes hold.

#### The Challenge

For this school district, students and teachers had some connectivity and bandwidth issues before the pandemic. As all students, and some teachers moved to remote locations, preserving their educational experience required some upgrades to the district's infrastructure and monitoring capabilities. The district had already implemented Infinite Campus as its Student Information System (SIS) but now needed to make that suite of applications and information accessible to teachers who chose to work remotely.

In addition, the primary platform for remote learning was Webex and the ability to monitor this critical application's performance and troubleshoot any issues needed to be greatly enhanced. This monitoring would continue to be done by their nGeniusONE server at their central datacenter, but would now receive service and application availability data, application performance monitoring, and smart data monitoring from additional vantage points. These points, at the network edge— both inside and outside the DMZ and in the Azure cloud infrastructure at the service edges needed to be better instrumented.

#### Additional Requirements:

- Their cloud implementation which consists primarily of Azure and Dell VxRail needed to be better monitored to ensure students had the bandwidth and constant connectivity required for all day instruction.
- In addition to purely web or cloud-based tools, their faculty was now using a mix of on-campus and remote access methods including VPNs. These VPNs not only needed to be visible to monitoring tools, but any issues with them needed to be discriminated from application performance issues quickly without using a lot of the IT team's time.
- Remote learning needed to be delivered to a variety of end user devices, including the new Chromebook devices provided to most students. This client edge became a new edge of the network and managing and monitoring these devices was a new added challenge.
- Extraneous traffic needed to be dealt with as well, to keep entertainment oriented streaming from consuming valuable bandwidth at the data center.
- For teachers operating from within the district's classrooms, wireless networks provide access to the data center and therefore the Internet. These networks must be monitored as well, to assure constant availability and adequate bandwidth for instructors.

The entire network infrastructure needed to be seen – from client edge, to network edge, to data center / cloud service edges, to both identify the location of any bottle necks, and to quickly determine if network or application, or even security issues, are at the bottom of any inadequate support for learning or administrative applications. Mean Time To Restore (MTTR) needed to be as short as possible.

#### Solution in Action

The school district will now utilize the nGeniusONE Service Assurance solution with addition of strategically deployed InfiniStreamNG (ISNG) appliances across its private data center environment, outside and inside the DMZ, to examine both inbound and outbound traffic. vSTREAM devices were selected to monitor the AZURE cloud & Dell VxRail implementation.

How the IT team is using their smart data monitoring visibility from NETSCOUT to meet their challenges:

- Network traffic aggregation and distribution with nGenius Packet Flow Switches for visibility into, and delivery of, packet data to monitoring tools such as the ISNG appliances for smart data edge monitoring and performance management throughout their data center.
- End-user experience assurance when using application services, whether web hosted, or through their data center, with smart data monitoring and smart analytics from nGeniusONE with ISNG appliances for application performance analysis. These applications include collaborative communication for staff such as email, Office 365, Webex, and their SIS, etc. In addition to monitoring cloud-based applications and infrastructure vSTREAM appliances are also used to monitor their UCC traffic.
- Extraneous traffic, such as streaming traffic from entertainment platforms, will be easily detectable by nGeniusONE and blocked by content filtering or firewall devices. By not offering 24/7 access to the network prime entertainment viewing hours are avoided which preserves bandwidth in the datacenter.
- Accelerated troubleshooting and problem resolution, leveraging the entire NETSCOUT solution, to reduce the MTTR for services by pinpointing the true source of degradations, outages, and errors throughout the transaction path, including the data center servers, the network itself and any associated VPNs.

#### The Results

For this school district, NETSCOUT solutions are providing insights into critical applications and services that are essential to their remote learning operations, as they gain pervasive visibility with unified views into the performance of their network and cloud implementations, VPNs, and applications with a single solution.

Furthermore, the power and flexibility of the nGeniusONE solution, to quickly and easily monitor traffic from the data center and cloud service edges to the network edge, which comprises the teaching and learning environment, will not be diminished when conditions again allow for a higher ratio of in classroom instruction.

The teachers and administrators' experiences have been improved with quick isolation of bottlenecks, which is made possible by maximizing IT efficiencies by using a single-solution approach to truly pinpoint the source of disruptions and slowdowns, while reducing MTTR.

The district can now stay ahead of issues including traffic and application utilization using trending data for capacity planning and alerting IT when performance volumes, responsiveness, or errors are trending negatively and require attention, often even before students and faculty are aware that problems are emerging.

It's all about optimizing actual instructional time, especially under changing conditions, and NETSCOUT is proud to play its part.

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#### LEARN MORE

For more information about NETSCOUT solutions for educational organizations, please visit:

<https://www.netscout.com/solutions/higher-education>

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