NETSCOUT

Instituto Politécnico Nacional Makes High Quality Student Experience a Priority

Improved Performance of Student Services with End-to-end NETSCOUT Visibility into Databases, Web Servers, and Application Servers

OVERVIEW

The Challenge

- Frequent web services outages in the student and staff portals negatively impacted end-user experience.
- Symptoms included network slowness, web pages not loading, total site downtime.
- Disconnected point tools showed parts of the problem, but couldn't provide end-to-end visibility in order to identify root cause.

The Solution

- nGeniusONE® Service Assurance platform
- InfiniStreamNG™ appliances

The Results

- Improved uptime, availability, and responsiveness of critical applications, such as the student and staff web portals.
- Dramatically improved student experience.
- Delivered faster time to knowledge, streamlining the troubleshooting process and improving cross-team collaboration.
- Right-sized the bank's infrastructure and enhanced bandwidth and server capacity forecasted upgrades with evidence-based insights.

Customer Profile

The IT department at Instituto Politécnico Nacional, one Mexico's largest public universities serves more than 200,000 staff, instructors and students, across campus locations in more than twenty states. Offering courses at the high school, undergraduate, graduate, and continuing education level, this prestigious institution of higher education is committed to contributing to scientific, technological and innovative development with positive social impact for the country.

The Challenge

Students, staff and faculty at this internationally renowned university rely on critical applications delivered via web services for important functions such as student registration, distribution of grades and class assignments, even tracking staff time cards and paystubs. When these services would go down, the end-user experience was adversely impacted. Frequent outages in the web portals for students and staff, as well as network slowness, database errors, web pages not loading, Internet link saturation, and Wide Area Network (WAN) link saturation were vexing problems faced by IT. For a team that prided itself on giving their students the best technology to meet their educational needs, the IT staff knew these disruptions were impacting students' ability to register for core classes and submit their assignments on time.

Disconnected point tools had proven ineffective at identifying the root cause of service degradation and security assurance problems. The university's IT team recognized the opportunity to become more proactive in finding and resolving problems in order to improve the student's digital experience and better support the educational mission of the institution.

Solution in Action

In order to improve the reliability of the university's vitally important web services, the IT team turned to NETSCOUT® to provide critical insights to solve network and application issues. The nGeniusONE Service Assurance platform, with custom service dashboard and Web Services Monitor views, helped IT gain end-to-end visibility into whether problems were in the database, the web server, the application server, or a back-end supporting service. InfiniStreamNG appliances, which transform wire data into Smart Data for proactive detection and troubleshooting, were used to build out a Smart Data Core of visibility across the main campuses.

The NETSCOUT solution allowed IT to identify that the Domain Name Service (DNS) server was suffering from significant problems in resolving IP addresses to names entered on web searches. The solution revealed that 90 percent of the load was being directed to just one of the university's three servers, while another server was generating significant errors. The loss of two of the three servers from the pool was placing an undue load on the one remaining server. Once corrective measures were taken on the failing server, proper load distribution between the three servers was restored and service performance returned to normal.

Misconfigured quality-of-service (QoS) settings and database errors also contributed to performance problems. NETSCOUT enabled IT to discover that many applications were deployed with incorrect or missing QOS settings, causing serious performance degradation to those applications. Further investigation of the frequent 503 errors spotted in the Web Services monitor revealed backend database issues causing the problems. nGeniusONE's contextual workflows made this problem identification fast and easy and simple to share with the database administrators for resolution.

The Results

The NETSCOUT solution has been highly effective for this leading university. IT has successfully improved uptime, availability, and responsiveness of critical applications, such as the student and staff web portals. This in turn has dramatically improved both student and teaching staff experience.

NETSCOUT has enabled faster time to knowledge, streamlining the IT team's troubleshooting process. With end-to-end visibility made possible by the nGeniusONE platform and InfiniStreamNG appliances, IT is now able to rapidly identify the root cause of performance problems, and quickly restore web services. The solution has also improved cross-team collaboration.

nGeniusONE's web classification feature allows for better network capacity planning and budgeting, as well as providing invaluable insights into the effectiveness of security policies which curtail access to unauthorized websites. The feature generates charts and reports which enable IT to see how much web traffic is generated to sites such as Facebook, WhatsApp, Twitter, YouTube, Spotify, and Netflix.

LEARN MORE

For more information about NETSCOUT Education solutions visit

https://www.netscout.com/solutions/service-assurance-higher-education

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