NETSCOUT

Troubleshooting Financial Processing Authentication Issues Using NETSCOUT

Smart Data Forensic Approach (vs. Traditional Packet Capture)

Perhaps more than ever, global customers relying on digital transactions have come to demand the same reliability and efficiency they would traditionally experience in-person or at the point-of-sale. Today's consumers, investors, businesses, employees, patients, and personal banking customers should expect nothing less.

This Use Case focuses on how "all the moving pieces behind" financial processing must operate seamlessly to execute even a single digital transaction and how NETSCOUT smart data – which automates and elevates the analysis of packet data – provided the evidence one IT team required to successfully troubleshoot an acute authentication issue that had surfaced in its environment.

Issue

It is safe to say this company successfully processes millions of financial transactions every day.

One technically savvy customer – regarded as a "VIP Client" – reached out to the company's Contact Center regarding a just-experienced financial processing issue that precluded the ability to complete a digital transaction. In describing this transaction to Contact Center resources, the customer was able to provide precise details regarding the date, times, and IP addresses corresponding to recurrences of this authentication processing issue.

In sharing this issue with the Contact Center, the customer described a scenario where the authentication process used to secure the purchase for both the customer and company was timing out before the transaction could be completed. Unfortunately for the company, the performance issue first reported by this customer soon grew to similarly impact other transactions, with calls to the Contact Center growing in both volume and urgency.

Impact

In a financial technology environment that supports this volume of business, an issue with a single transaction can have significant ramifications to that customer and could mark the beginning of a service anomaly with farther-reaching impacts to the company and its brand reputation.

In addition to impairing customer abilities to complete required transactions, these types of issues can rapidly compromise a company's compliance with service level agreements (SLAs) governing their financial processing efficiencies.

Troubleshooting

Using the information provided by the initial customer report enabled the IT team to jump-start the troubleshooting process, with the company's Applications team commencing a deep-dive investigation into root cause analysis. As they kicked off this process, the Applications team requested that their contracted NETSCOUT® Premium Services Engineer (PSE) join them to provide recommended-practices guidance regarding how the company's installed nGeniusONE® Service Assurance platform and smart visibility data sources could assist those efforts.

Taking advantage ASI-generated smart data that fuels nGeniusONE analytics, the PSE used a standard NETSCOUT troubleshooting workflow that contextually drilled from the nGeniusONE Search & Discover feature to the Universal Monitor view exhibited in Figure 1. Once the Universal Monitor was accessed via the Search & Discover results, a switch was made to access "TCP Analysis" to see if there were any TCP-level issues, such as Client/Server Zero Window or Server Reset events (the latter of which was determined as the root cause).
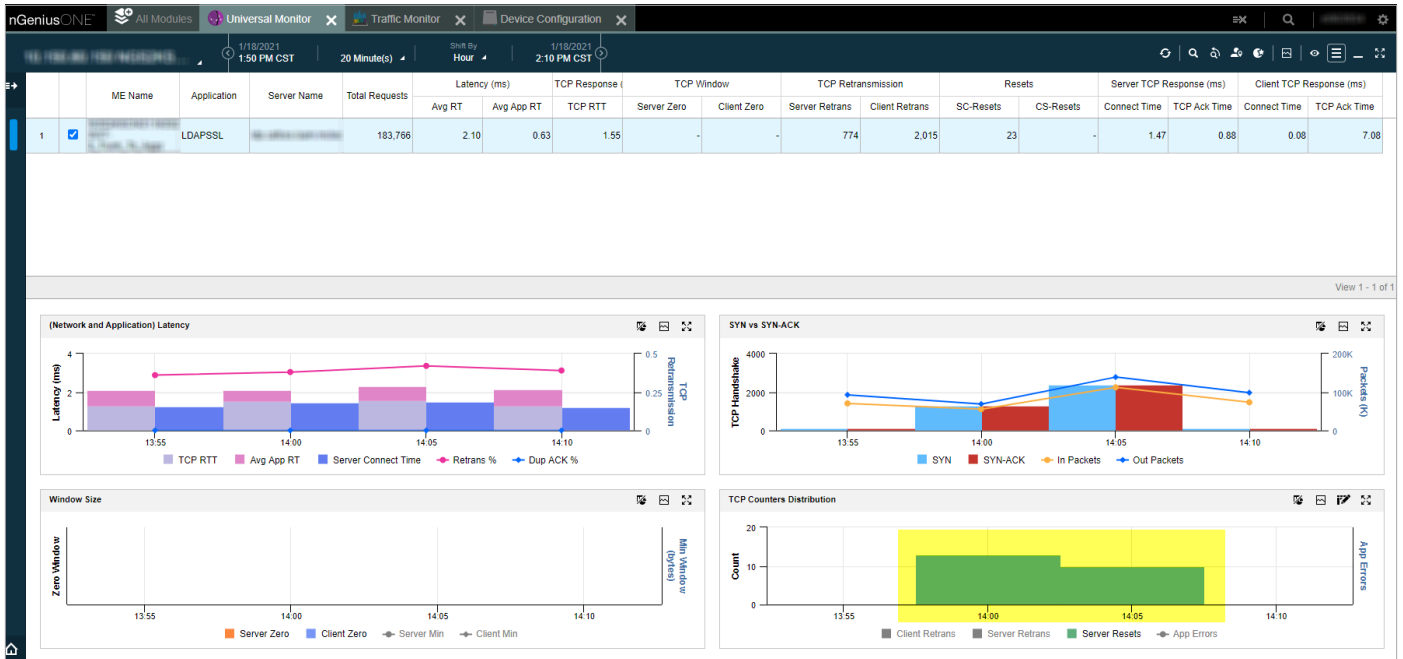
Figure 1: The Universal Monitor and smart data views into network and application latency, TCP counters, and SYN vs. SYN-ACK identified that root cause related to Server Reset events.
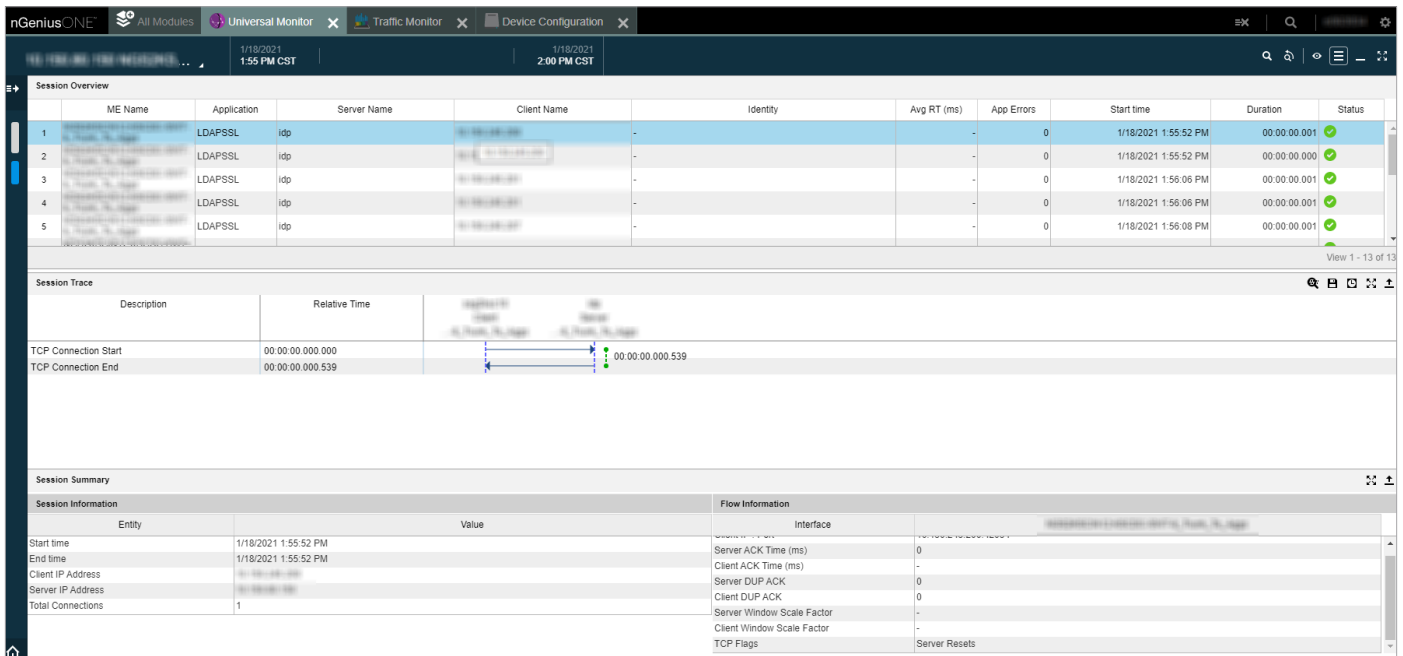

Figure 2: Leveraging NETSCOUT ASI-generated smart data, this nGeniusONE TCP Analysis-TCP Counters Distribution chart quickly showed that Server Resets were evident only during the time of the transactions in question.

With this view factoring IP address, XML Gateway, server gateway resets, and translations involved in the transaction, the Applications team and PSE and determined the XML Gateway was sending back server resets that were prompting the retries, since the initial transaction had not successfully completed. Specifically, this process occurred at the exact time the XML Gateway was doing port address translation, also involving a back-end LDAP/SSL call.

Using the nGeniusONE TCP analysis/discovery view exhibited in Figure 2, the Apps team was provided with clear evidence that Server Resets were being sent from the XML Gateway.

By investigating further, the Applications team and PSE were able to find all sessions that had experienced resets and provided that as supplemental data to inform the remediation process.

Remediation

The Applications team in this company's IT operation frequently uses TCP information in their analytics and troubleshooting process, so the NETSCOUT ASI-level TCP layer provided evidence into root cause analysis that was easily consumed by this group. Working in collaboration with the Applications team and NETSCOUT PSE, the responsible IT administrator made configuration changes to the XML Gateway that eliminated the server resets, returning financial transaction processing to reliable levels for the company and its customers.

As part of ongoing everyday financial service operations, the IT team now uses the nGeniusONE solution to monitor XML Gateway as part of a "situations to Monitor" process.

Summary

This Use Case focuses on how NETSCOUT smart visibility played a key role in troubleshooting financial services performance issues and returning digital transaction processing to levels expected by global customers and as defined in SLAs.

However, the "lesson learned" is relevant to any company relying on XML Gateway performance to support digital transaction processing. This Use Case also accentuates the increased value that NETSCOUT smart data and nGeniusONE bring to refined root cause analysis that reduces IT troubleshooting cycles.

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