Guide

4 Easy Steps to Troubleshoot Performance Degradations

Have performance degradations impacted your business? Yes, we know. They've affected us all.

In this 24/7/365 world where organizations communicate, conduct business, compete, and collaborate almost constantly, the financial and operational cost attributed to even one second of application or network downtime is quantifiably significant. Customers, employees, suppliers, partners, users all expect instantaneous access to information, products, services, and systems without interruption or delay. Disruption is not tolerated. Downtime is unacceptable.

So what is an organization or enterprise to do in this new digital age of around-the-clock access? Here are are four steps from the performance experts at Accedian that can help you quickly and efficiently troubleshoot network and application performance impact customer experience, your brand, or your bottom line.

Step One: Identify the application chain

The first step is identifying the full application chain so you can initiate troubleshooting (i.e. to find the origin of the degradation). To optimize network and application performance and help enable real-time performance troubleshooting, you need granular, 360° visibility into your IT infrastructure. For example, users, devices, network, load balancers, proxies, firewalls, and servers (front and back-end). This is important as degradations are:

- Often subjective
- Intermittent and often hard to reproduce
- Hard to identify within the application chain

By understanding and having visibility into the application chain, you can pinpoint where the degradation originated.

Figure 1: Potential locations of performance degradation origin

Step Two: Capture the right traffic

Next, it is important to look at the traffic flows as well as determine which devices can provide a point of capture.

By installing a network traffic analysis device, you can begin real-time analysis of data traffic to initiate the troubleshooting process. You can use a color-coded dashboard that identifies the performance levels for all critical applications. Drill down from the dashboard to inspect any trouble spots to determine which users have been impacted and where the problem resides (e.g. server, network, etc.).

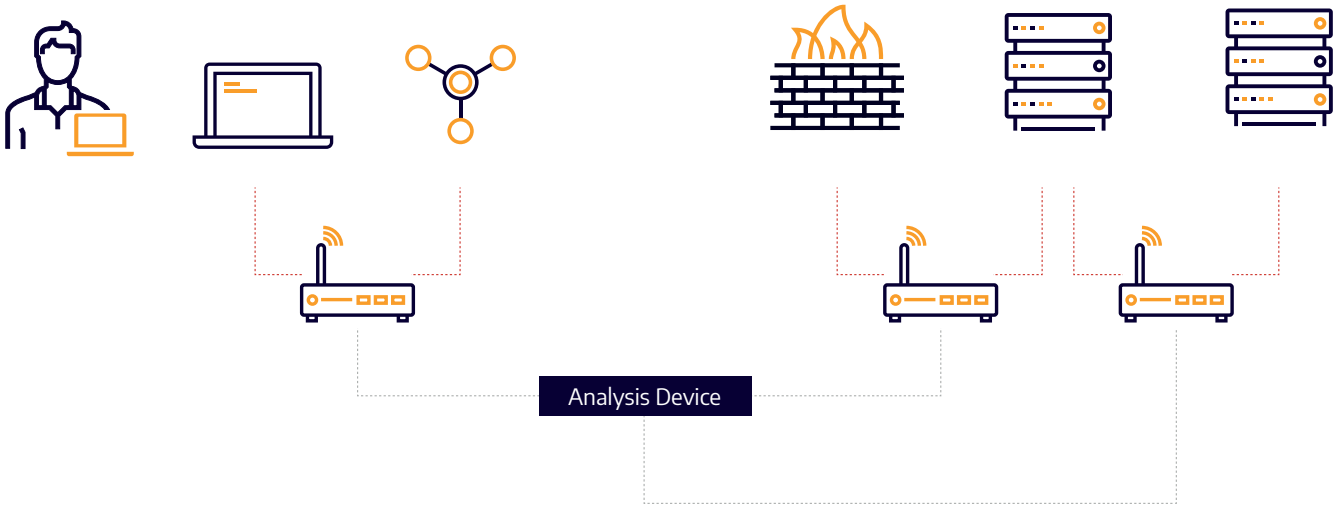


Figure 2: Placement of an analysis device in the application chain for traffic capture

Step Three: Measure transaction times with real user monitoring

To analyze and assess overall transaction times at both the TCP and transaction levels, it is important to measure the following:

- Request transfer times
- Server processing times
- Response transfer times

At the TCP level, you can gain insights around network vs. server response times, retransmission times, and data volumes. At the transaction level, you can look at query details, protocol data unit (PDU) transfer times, response codes, and errors.

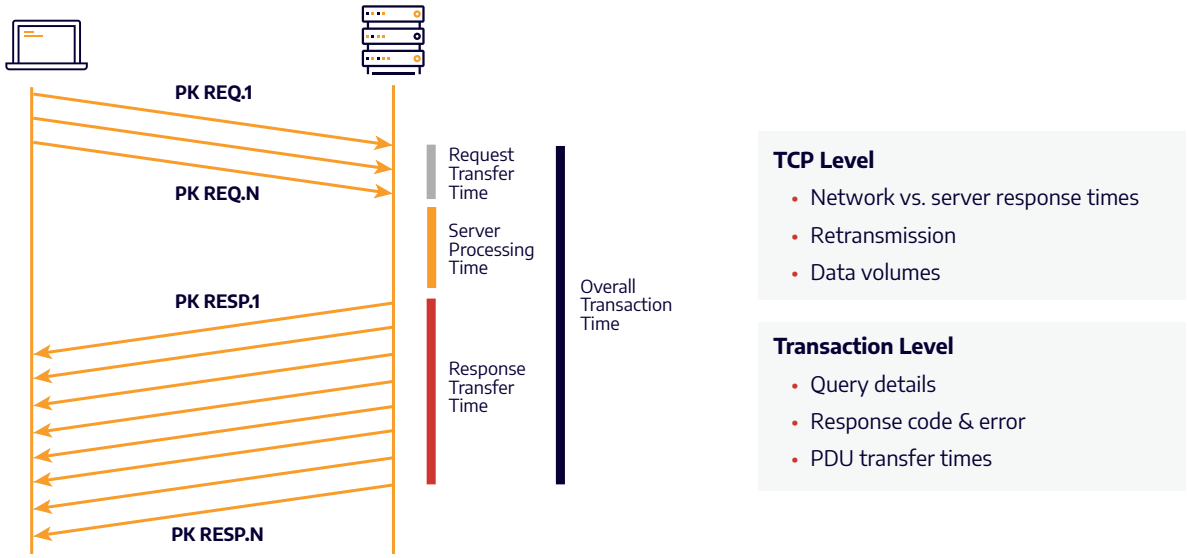
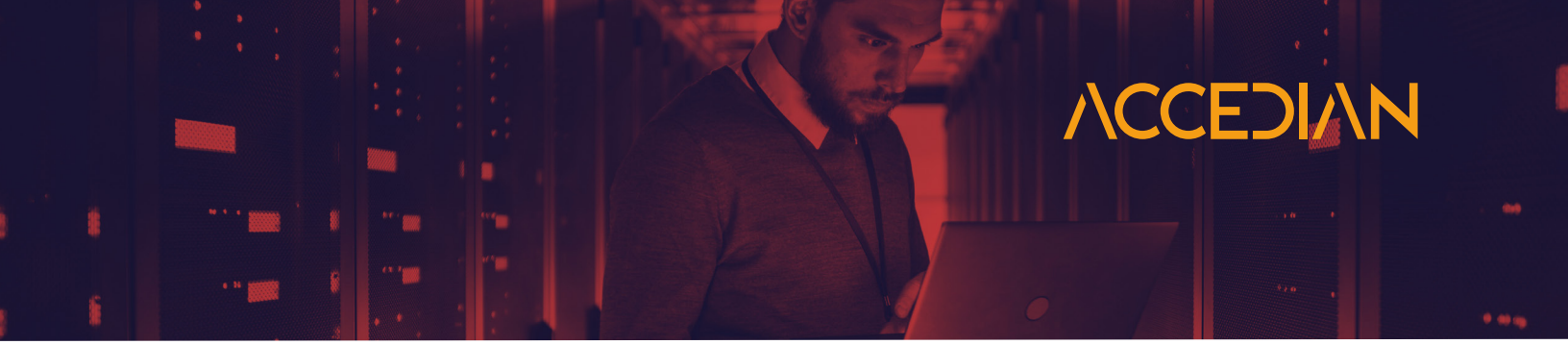


Figure 3: Overall Transaction Time at the TCP and transaction level



Step Four: Troubleshoot and resolve degradations

The fourth step identifies the problem and expedites resolution. As you continually drill down and gain more and more granularity into the degradation, you can easily determine where the problem resides. Using this detailed degradation data, you can detect how many users the issue is impacting, which IT or network groups within the organization will be needed to resolve and mitigate the issue due to its origin, and other granular insights. This allows you to expedite resolution to reduce the negative quality of experience impact on your end users, as well as productivity losses.

Next Steps: Set analysis success factors

At this juncture, it is import to establish your key success factors in reducing mean-time-to-resolution (MTTR) and effectively troubleshooting performance degradations. Success factors are dependent on achieving higher and more consistent levels of application performance. How? By the following:

- Constructing a performance history through continuous monitoring
- Enabling automated metric computation
- Utilizing your performance monitoring tools to drill down with appropriate granularity
- Establishing a wide angle view to gain visibility into all users and applications
- Ensuring that your tools scale as workloads and complexity necessitates

By taking these four key steps to troubleshooting performance degradations as well setting some short- and long-term success factors, organizations can take some key measurable actions:

- Build more effective, real-time communications between a number of complementary IT organizations: networking, application development, data center operations
- Assign responsibility to the right team within the organization to expedite resolution
- Construct a process for continuous monitoring of response times as a tool in responding to and mitigating network and application degradations these were not present in reality

About Accedian

Accedian is the leader in performance analytics and end user experience solutions, dedicated to providing our customers with the ability to assure their digital infrastructure, while helping them to unlock the full productivity of their users.

Learn more at accedian.com

Accedian | 2351 Blvd. Alfred Nobel, N-410 | Saint-Laurent, QC H4S 2A9 | 1 866-685-8181 | **accedian.com**