CASE STUDY

Game Company Improves Global Multiplayer Game Experience with Keysight AppStack

Customer

Headquartered in California, with more than 20 years of leadership in the industry, this game company holds the most reputable brand for online entertainment; especially massive multiplayer online (MMO) gaming. The company's international stature is reflected by its continued industry shattering records, including the largest player base of any single game, comprising over 5 million members.

Last year, the company reported customers spent as much time online playing their games as viewers spent watching Netflix!

Objectives

- Expand game coverage into six new countries within the next six months
- Reduce customer resolution time by 50% while increasing player engagement
- Reduce unknown outages by 50%

Challenges:

- Slow response to support tickets; inability to keep up on a daily basis
- Failure to prioritize bugs
- Planned network expansion hindered by operational challenges

Solutions:

- Support ticket information greatly enhanced, resulting in quicker, more accurate response with a more personal touch
- Product teams provided real-world "granular" support information for improved product planning
- Using Keysight AppStack, operations tools allow for a deeper dive into metrics that provide capacity in finding the cause of problems quickly and proactively determine trouble situations before they

Outcome:

- Increased active subscribers in 2016 from 7M to 10M, growing revenue 15% to $10B
- Reduced trouble ticket resolution time by 45%
- Reduced operational costs by 25%

KEYSIGHT TECHNOLOGIES

The Goal: Keep Players Immersed

The company's top game includes Web and mobile applications that players access from their devices, such as cell phones, tablets, and personal computers (PCs).

It is also multi-player, meaning that players from different locations around the globe interact in highly involved coordinated play, investing weeks of their lives building their virtual characters, crafting strategies, and progressing within the game.

For instance, consider a group of players that have spent hours devising a strategy to attack a key end-level boss. When successful, the team will, together, reap the rewards of unique equipment, experience points to level their characters and gold. But first, they must work together to succeed, each with their role to play in their conquest.

One of the player's roles is to heal the others; if this player experiences network lag during battle, preventing them from healing others, all the players could die. Even though the player may have done everything right, somewhere among their keyboard, the local Internet service provider (ISP), the Internet, and the game company's servers, something went wrong, detracting from the experience of all players in that battle, not just one player or team.

Unfortunately for the game company, players were quick to blame the game application as the culprit of any interruption, resulting in a constant stream of support requests.

Reduce Support Call Time and Frequency By Improving MTTR

The company has recently received complaints of disconnects and lag in gameplay. However, the tools the operations team have at its disposal are insufficient to determine the issue. The operations team does not have details on the user device, operating system (OS), location, service provider, and other

information at hand. Instead, this information must be extracted from each support ticket manually, which negatively impacts players contacting support with excessive call times. Moreover, as networks fluctuate, and by the time data is retrieved, poor performance often dissipates. The company requires a more robust solution that can zero in on problems and determine cause quicker.

Product Development Overloaded with Bugs Reports

The game company's product team is constantly performing a balancing act between which critical bugs to fix versus new game functionality. The game software runs on many types of devices and is localized for over 50 different countries, creating additional complications, resulting in a significant number of permutations to support. When a player requests support, it is left up to the support representative to query the user on which device they are playing the game on, which patch level they have, and when they started experiencing problems. There is a team of report analysts on the support team that tabulates the bugs and provides them to the product team on a weekly basis. Unfortunately, duplicate bug reports add congestion to the list, and often, developers are left debugging the same problem over and over again. The result was a slowdown in improved game content, resulting in player frustration and an increase in players who quit the game, taking their subscription dollars with them.

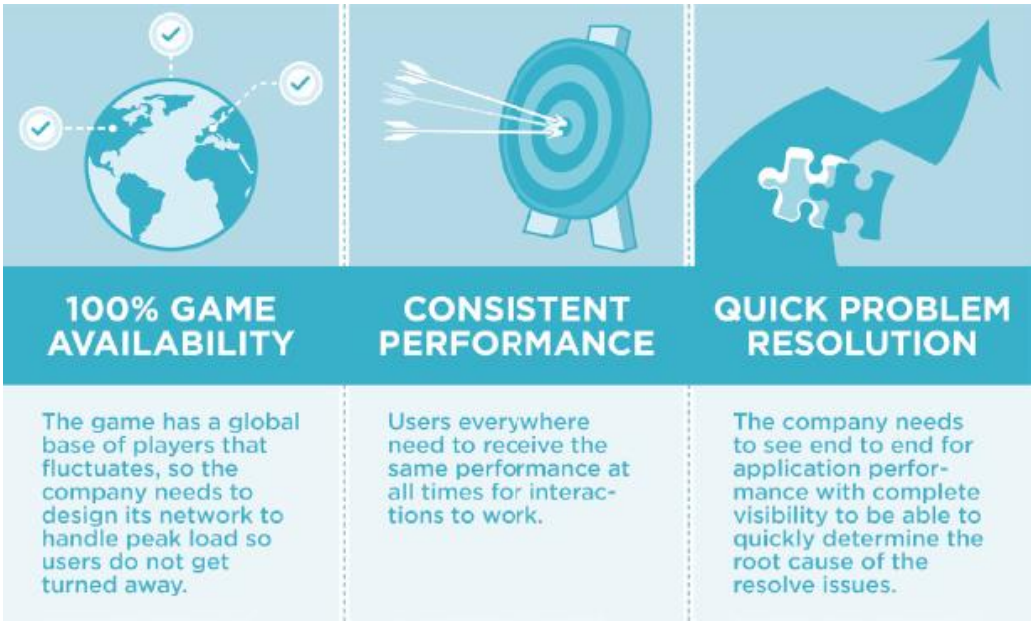
Planned Network Expansion Hindered by Operational Challenges

One of the goals of the company's operations team was to increase existing capacity and expand global network coverage. Unfortunately, operational problems presented a challenge to any future build-outs. First, due to a large number of support tickets related to poor in-game performance, the question of if the existing network design could scale was challenged by several senior engineers. Second, when customer problems were unable to be resolved by support personnel, the escalation path required involvement from an engineering team. When the support escalation path was in place, it was expected that only 1% of all support tickets would need to be escalated up to these advanced teams. However, in practice, the number exceeded 5%. Time and energy invested towards network and operational planning were being diverted to fix the next "big fire," resulting in the chief operating officer worrying about their capability to expand as planned.

Giving Players the Platform to Prevail

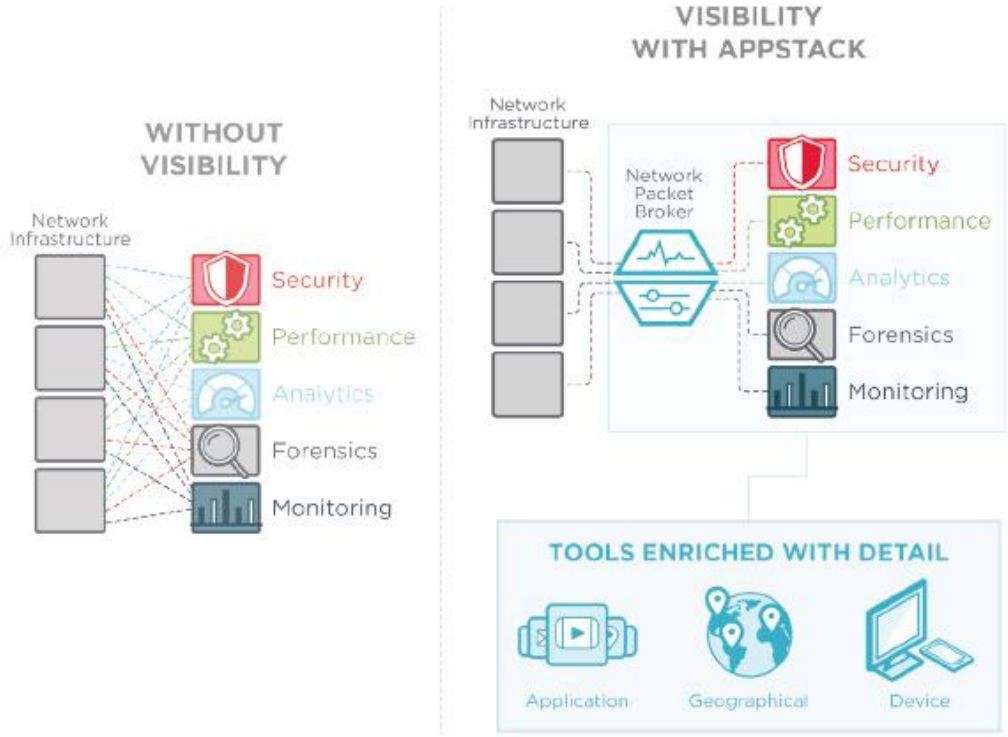
A dissatisfied player could write negative reviews and choose to play a game by a competitor—either way, subscription dollars and the gaming company's bottom line is affected by application performance. Furthermore, the game was growing, and expansion plans were on the horizon, and if the company did not right the ship before deploying new facilities, its problems would only get worse.

To provide the best game experience, the executive staff established three goals: 100% game availability, consistent performance, and quick problem resolution.



Implementation Of Network Visibility To Empower The Monitoring Platform

The first solution the company implemented was end-to-end visibility utilizing the Keysight Vision portfolio of network packet brokers, distributing a complete view of the organization's network data to all its monitoring tools.



Implementing network visibility provided the company's performance, security, and monitoring tools equal access to all network data. In addition, the visibility solution provided a data flow to each tool that was appropriate for that tool's needs, allowing it to work more efficiently.

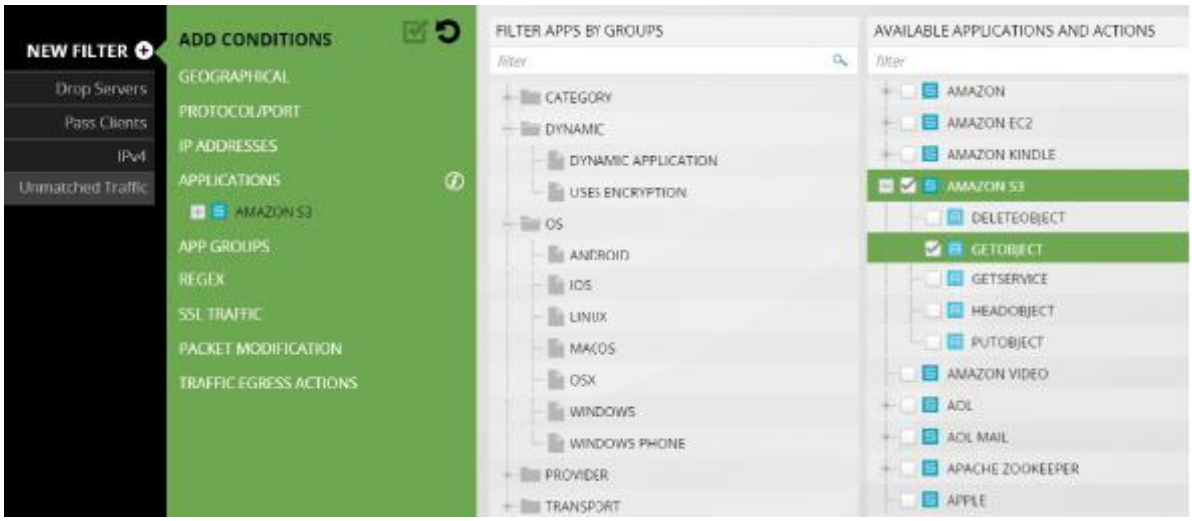
Use AppStack Features To Dive Deep Into Details Through Application Intelligence

Keysight AppStack is an add-on to network packet brokers as part of a greater visibility solution. It provides true application awareness that is shared with security, monitoring, and analysis tools, allowing them to leverage more granular user data to provide further insight and provides the following capabilities:

1. **Fats and accurate point-and-click data manipulation**

   Keysight AppStack is unique, because it does not need to be programmed to work; rather, it uses application signatures that provide a much higher degree of application identification accuracy and flexibility. Keysight maintains a database of hundreds of applications that are regularly updated as new applications come online or change.

   For instance, the game uses the extensive support of Amazon Web Services (AWS) S3 object storage. With Keysight AppStack, identifying Amazon S3 application flows is as simple as point-and-click in the AppStack dashboard:



   The team set up a specialized application performance monitoring (APM) tool that streamed only this S3 data to, and it took only a few minutes to setup this solution.

2. **Quick drill down using the point-and-click AppStack dashboard**

   The AppStack point-and-click dashboard allows for quick adjustment to see which application flow data is relevant at a given time. For instance, you can see all network traffic generated by Android devices that are running mobile game software with just a few mouse clicks. You can further refine the results by selecting different views by geography, device, browser types, and more!

   By offering a drill-down capability, the team could decipher between the different components that could be the root cause of slow performance.

3. **Ability to create custom signatures for existing tools to track specific builds**

   Keysight highly accurate application identification utilizes application signatures that are easy to create and customize. The game company used this capability to create custom signatures for every application build. Now, every tool in their monitoring platform can report on not just country, service provider, device type, and operating system, but also which particular application build they are using, and allows for quick correlation of problems. This insight was expanded up to the customer support and product development teams, enabling them to be much more granular in trouble resolution.

The Result: Granular Understanding of Customers and Problems

With the addition of geolocation, device, and user data provided to their existing monitoring platform, the company has a much better understanding of their customers, allowing:

1. **Quicker MTTR due to deep user details embedded automatically with all support ticket details**

   Trouble tickets submitted by players now include a much richer set of information about their setup, including which country the player logged in from, the service provider they were using, the device type they were using, their OS, and the software version and game software patch level.

   Now, support staff no longer has to waste time asking users questions about their environment during support calls, and more importantly, they can immediately see granular details about a player's environment, including OS version, software patch level, and service provider, details often not known by the players.

2. **Improved identification of systemic problems resulting in quicker proactive resolution**

   Trouble tickets submitted by players now include a much richer set of information about their setup, including which country the player logged in from, the service provider they were using, the device type they were using, their OS, and the software version and game software patch level.

Now, support staff no longer has to waste time asking users questions about their environment during support calls, and more importantly, they can immediately see granular details about a player's environment, including OS version, software patch level, and service provider, details often not known by the players.

3. **Improved software development process**

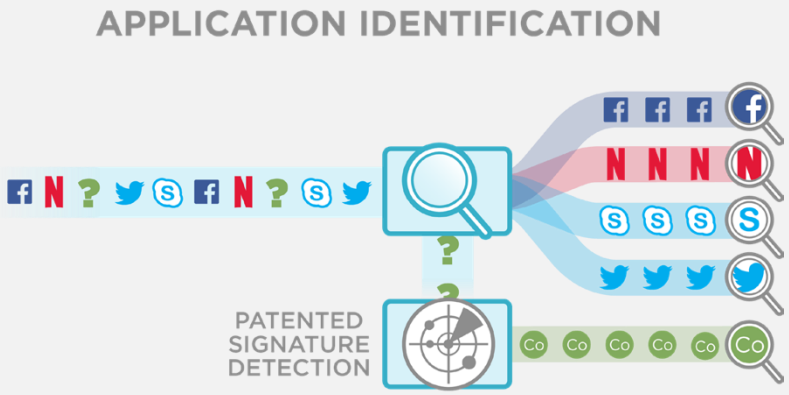
   The support teams were more capable of solving trouble tickets without the need to engage developers. Also, the bug reports that make their way to the development team are a lot less repetitive and contain much more detail, resulting in quicker resolution times. With the reduction of bugs, the product development team can focus more of their efforts on making good game content.

Actual Outcome

- Increased active subscribers in 2016 from 7M to 10M, growing revenue 15% to $10B
- Reduced trouble ticket resolution time by 45%
- Reduced operational costs by 25%

"Reactive" organizations that are slow to respond to problems that impact customer experience suffer from customer churn and lower overall market success. Transforming organizations so that they are more "proactive" reduces costs and eliminates duplication and non-value-added processes, which is key to improving the bottom line and improving product and service delivery. After deploying Keysight Visibility with AppStack capabilities, along with investments in critical monitoring tools, this organization made the change from being reactive to proactive.

At the heart of AppStack capabilities is the best application identification technology on the market today. With its ability to pull incredibly detailed user information from data flows simply and automatically via packet inspection, AppStack can either remove specific data to tools or empower tools by forwarding detailed user data to them. Available on Keysight's Vision network packet brokers and Keysight CloudLens, AppStack provides a way for information technology (IT) and network administrators to consistently and accurately access information beyond Layer 4 network transmissions for data streams.



The Result?

This online game company continues to be the leader in online multiplayer games, with players who enjoy escaping the real world and entering the lives of their characters unobstructed by the dullness of the physical world, including network latency. With Keysight Visibility, the game company scaled its network and player base while maintaining growing revenue and, most importantly, their continued dominance in the global games industry, which is slated to surpass $100B in 2017.

Learn more at: www.keysight.com

For more information on Keysight Technologies' products, applications or services, please contact your local Keysight office. The complete list is available at: www.keysight.com/find/contactus