



ESG Economic Validation

Evaluating the Economic Benefits of Riverbed Unified Network Performance Monitoring

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Executive Summary

The Riverbed Unified NPM solution helps organizations effectively manage and monitor their IT environments with an integrated set of modules that collect, integrate, and analyze network, application, and device data.

ESG completed a qualitative analysis of the Riverbed Unified NPM solution by conducting direct interviews with customers. We concluded that the solution delivers economic value by helping organizations spend less time identifying and troubleshooting issues, by improving collaboration amongst IT operations, and by increasing network security.

ESG validated that the Riverbed Unified NPM solution contributes to lower MTTI and MTTR, which helped those customers interviewed to increase end-user productivity and lower operational expenses.

Introduction

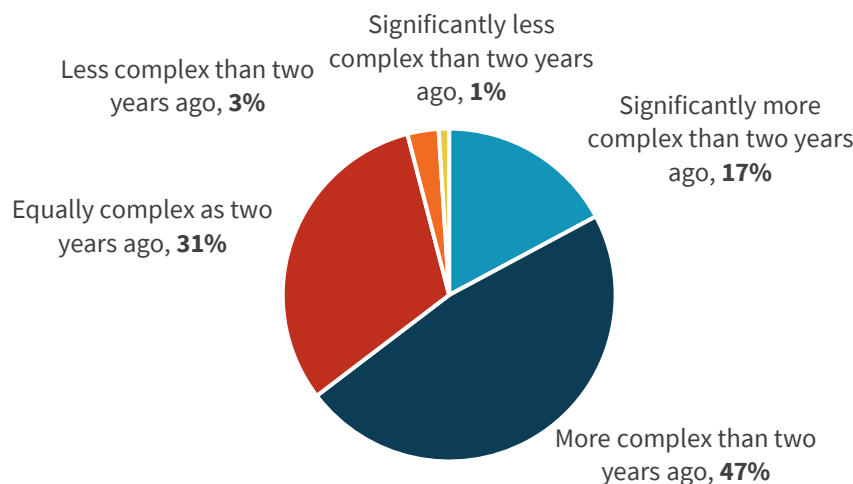
This ESG Economic Validation explores the savings organizations can expect when using Riverbed Unified Network Performance Monitoring (NPM) for managing the health and performance of their IT networks, as a result of the fact that it spans both on-premises and the cloud.

Background

The increase in remote workers due to the COVID-19 pandemic has drastically altered the workplace. As ESG research has uncovered, more than half of surveyed respondents have reported that at least 80% of their knowledge workers are working from home as a result of the pandemic.¹ Couple this situation with the fact that organizations are combining their on-premises IT environments with public cloud infrastructures and applications, and it should be no surprise that they report that their overall IT environments have become more complex. Even before the pandemic, the complexity of the overall environment has been increasing, with 95% of respondents reporting that they view their environments as equally or more complex than they were two years ago (see Figure 1).²

Figure 1. Increased Complexity Observed in Today’s IT Environment

In general, how complex is your organization’s IT environment relative to two years ago?
(Percent of respondents, N=658)



Source: Enterprise Strategy Group

Managing this overall complexity is now more critical, as employees expect the same levels of application performance and availability, regardless of where they are working or how applications are delivered (either via a centralized data center and/or with a mix of private and the public cloud). As there is no clear end in sight for the COVID-19 pandemic, ensuring that employees have application access so that they can meet business objectives is especially important. Those responsible for the overall health and security of the IT network must have access to tools that provide comprehensive unified visibility, management, and control to ensure that employees can work as if it is “business as usual.”

¹ Source: ESG Master Survey Results, [Technology Impact of COVID-19: IT Decision Maker \(ITDM\) View](#), May 2020.

² Source: ESG Research Report, [2020 Technology Spending Intentions Survey](#), February 2020.

The Solution – Riverbed Unified Network Performance Monitoring

The Riverbed Unified Network Performance Monitoring (NPM) solution is designed to help organizations obtain comprehensive visibility across their IT environments, combining network forensics, application analytics, and end-user experience monitoring. With Riverbed NPM, organizations can improve their visibility by collecting, storing, and intelligently analyzing packet, flow, and network device data traversing on-premises, cloud, hybrid, and multi-cloud environments via an integrated set of tools. The solution helps organizations detect and respond to quickly troubleshoot and resolve performance and availability issues.

By continuously collecting, synthesizing, and analyzing all packet, flow, and device data throughout the IT network, Riverbed’s Unified NPM solution can improve an organization’s ability to detect and resolve network and security issues in a timely and proactive manner. IT teams responsible for network and application performance and availability can work from a common set of data to derive root causes of issues impacting end-users.

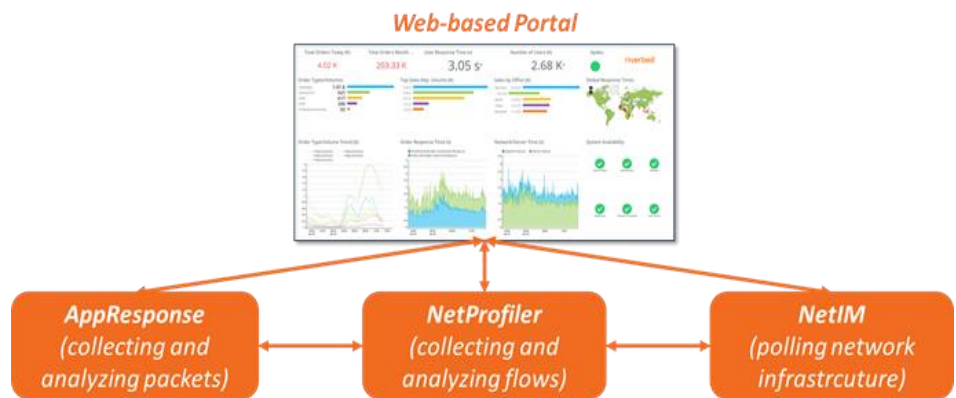
Riverbed Unified NPM users can also leverage and customize a web-based portal that provides a real-time and unified view of the state of the IT network. By leveraging complete, collated data from what was traditionally discrete, limited silos, organizations can summarize key metrics and gain actionable insights into potential and current issues impacting network and application availability and performance. Multiple groups within organizations, spanning IT operations, management, and executives can gain a common view of potential issues to address and, subsequently, form a cohesive plan to address and resolve them.

Riverbed’s Unified NPM solution is ideally suited to provide both performance and security monitoring across all types of network environments—physical, virtual, hybrid, and multi-cloud. Network IT teams can ensure that business-critical applications receive high availability and performance, regardless of where end-users access these applications. Security teams can leverage the Riverbed Unified NPM solution to quickly detect and respond to cyberattacks, as more people are working remotely and increasing the organization’s attack surface.

Riverbed has also designed its Unified NPM solution to leverage artificial intelligence (AI)/machine learning (ML) and analytics to identify and verify potential IT incidents using transactional data, metadata, and metrics generated 24/7. Trends and anomalies can be detected before they potentially impact the organization’s IT environments negatively.

Riverbed’s integrated and modular NPM solution consists of the following components:

- **AppResponse:** collects all packet data with an agentless architecture to continuously monitor applications in real time. It also jumpstarts an organization’s ability to analyze and resolve issues out of the box with pre-defined insights and performance metrics.
- **NetProfiler:** combines network flow data with packet-based performance metrics to support proactive monitoring, analysis, and reporting. It automates discovery and dependency mapping to determine existing application services and utilizes behavior analytics to baseline normal performance.



- **NetIM:** gives device-level visibility and compiles infrastructure topologies, maps application network paths, and diagrams the current IT network. It also delivers a comprehensive picture of how the IT infrastructure can influence network and application performance.
- **Portal:** provides customizable, centralized dashboards for bespoke views of the current IT environment. By integrating the Riverbed Unified NPM solution and complementary third-party solutions, it acts as the “single source of truth” for network and application performance monitoring to accelerate troubleshooting.

ESG Economic Validation

ESG’s Economic Validation process is a proven method for understanding and validating the economic value of an IT industry solution. The process leverages ESG’s core competencies in market and industry analysis, forward-looking research, and technical/economic validation.

For this Economic Validation, ESG conducted in-depth interviews with current users of the Riverbed Unified NPM solution. We asked these Riverbed customers to explain how they leverage the solution in their existing environments and describe the benefits that their organizations have experienced. We then grouped and summarized our findings into categories describing how the Riverbed Unified NPM solution delivers economic value.

Economic Value Overview

Based on our interviews and analysis, the Riverbed Unified NPM solution delivers economic value due to factors that can be classified into four major categories: less time to identify and troubleshoot issues, increased and unified visibility into the IT environment, improved collaboration amongst IT operations, and support for improved network security. The combination of these economic benefits enabled those organizations interviewed to achieve savings in both time and resources, thus decreasing operational expenses.

Less Time to Identify and Troubleshoot Issues



As IT environments have become increasingly complex, network administrators continually face the challenge of identifying and resolving the root causes of any issue disrupting employees from completing their work. During our conversations, ESG found that detecting and resolving these issues have taken on new importance as the COVID-19 pandemic unfolded, prompting organizations to mandate work-from-home policies. Ensuring that the organization’s network and applications continued to operate without incident became paramount for Riverbed customers included in this report to prevent any further disruption to business operations.

While other organizations use multiple performance management and visibility tools to troubleshoot their IT networks, the lack of integration increases the time and effort to correctly identify issues in the first place, let alone resolve them. Time spent on accessing multiple siloed tools with different interfaces and commands, gathering data (e.g., data dumps from multiple devices), and integrating these data manually can easily accumulate. Efforts to collect and analyze data can become counterproductive, as issues impacting how end-users can complete their jobs remain unresolved.

On the other hand, Riverbed’s Unified NPM solution integrates multiple tools—AppResponse, NetProfiler, and NetIM—so

“We are collecting data on over 6,500 devices including SNMP, NetFlow, and packets, and it is helpful to have the data tightly integrated.”

- Senior Network Tools Architect, private financial services holding company

that network administrators spend less time on collecting, integrating, and correlating data. ESG found that Riverbed’s Unified NPM helped IT operations to quickly pinpoint the most likely root cause quickly and decide on the most effective resolution. Time for completing the amount of upfront work required when using multiple third-party tools was no longer a factor. Spending less time on collecting and integrating data manually directly correlated with an overall decrease in mean-

time-to-repair (MTTR), giving users more time to focus on the most critical tasks and strategic initiatives.

ESG also found that current customers experienced a decrease in mean-time-to-innocence (MTTI). While it is important to identify any issue impacting end-users’ ability to work, it is just as important to narrow down possibilities. A classic example is addressing the “network is slow” problem, as network administrators have heard multiple times when end-users complain that an application is not responding as quickly as expected. While network congestion can cause slow application response times, the issue may actually lie elsewhere (e.g., within the application server).

To resolve any performance or availability issues quickly, network administrators cannot waste time chasing down multiple possibilities. Eliminating what is *not* causing an issue can help also to decrease overall MTTR.

“Rather than spend cycles on determining if a trouble is solely due to the network, we can leverage AppResponse to determine if the issue is because of the application in question. This has helped in focusing our efforts in solving the problem versus trying to locate the root cause. What used to take hours to days, now takes minutes to hours.”

- Senior Network Tools Architect, private financial services holding company

Finally, ESG found that Riverbed customers could identify more issues proactively and resolve them, limiting their overall effect on network and application availability and performance. While network administrators strive to act quickly and

“We perform less management by complaint.”

- Senior Systems Engineer, large federal governmental agency

decisively when problems are encountered, they prefer to identify potential problems and eliminate them before negatively impacting the IT environments and affecting end-user productivity. Acting proactively to maintain a fast and reliable network does indeed decrease overall downtime.

Ultimately, ESG found that the Riverbed Unified NPM solution enabled users to proactively maintain network health and performance, leading to decreased MTTR, higher end-user productivity and lower operational costs.



Increased and Unified Visibility into the IT Environment

While gathering and integrating data can support network administrators in identifying issues that impact how well the IT environment operates, the ability to view active and potential uses across the entire network in real time also offers economic advantages. Correlating findings from multiple management interfaces associated with multiple tools simply wastes valuable time and resources. Riverbed’s Unified NPM Portal enables IT to view correlated network metrics and trends in one place.

ESG's interviews with Riverbed Unified NPM users revealed that the web-based Portal decreased their time to identify issues to address, as network, application, and device data are compiled, integrated, and displayed on one screen. ESG also found that Riverbed's Unified NPM Portal served as a "single source of truth" across multiple products and multiple audiences. Ensuring the overall health of the IT environment requires that all stakeholders agree on the issues to address and the actions to take.

"The Portal is a way to provide management and IT staff with the easy-to-see dashboard of what's going on in the network."

- Principal Engineer, large US-based airline

We also uncovered that the Portal enabled Riverbed customers to create customized, role-based views so that every level of their organizations—IT operations, management, and executives—was able to obtain insight into current and potential network and application problems. Providing that common view enabled all levels of the organization to agree upon how best to resolve these uncovered issues quickly. The unified view contributed to an overall decrease in MTTR, as all stakeholders could quickly agree on those issues that needed to be prioritized and resolved.

"During the pandemic we were able to quickly and easily generate a dashboard showing VPN and internet capacity as well as concurrent VPN sessions on a daily basis to our management team. Without Riverbed we would have been scrambling to pull these reports together manually and email them to all interested parties."

- Principal Engineer, large US-based airline

ESG also found that IT operations could produce up-to-date reports based on the real-time views provided by the Riverbed Portal. This was especially helpful when assessing how well the IT network was equipped to deal with unexpected events, such as increased consumption of network bandwidth.

One use case that was cited repeatedly was the ability to monitor and manage the dramatic increase in network traffic that occurred after work-from-home mandates were instituted due to the COVID-19 pandemic. To support those now working from home, customers closely monitored changes in network traffic patterns and bandwidth consumption. Producing these up-to-date reports helped Riverbed customers to accurately assess how well they

managed this issue (e.g., identifying points of network congestion). Having up-to-date information ultimately helped IT operations and management in identifying quickly how to maintain a satisfactory end-user experience in this "new normal."

ESG's interviews also revealed how the holistic visibility provided by Riverbed's Unified NPM solution enabled effective capacity planning. Network administrators are constantly challenged to optimize the amount of network bandwidth to support regular traffic patterns as well as traffic spikes. While many organizations still compile network data from multiple devices and create bandwidth consumption forecasts, Riverbed customers have found an alternative way to manage current and future purchases of network bandwidth. By monitoring end-user consumption and network traffic patterns, they could optimize their network spending and save on operational costs in the long run.

"To determine if we are provisioning enough AWS Direct Connects, we first need to know who is using the network and the amount of network bandwidth they consume. We can improve our ability to plan the right amount of capacity our network needs, without spending more than needed."

- Principal Engineer, large US-based airline



Improved IT Collaboration

ESG's interviews also uncovered that the data collected by the Riverbed Unified NPM solution can be leveraged by others associated with IT operations aside from network administrators. We specifically found that other parties managing application, server, and storage infrastructures, could all derive value from Riverbed's Unified NPM data.

“50% of the time, it is not a network issue. Riverbed Unified NPM helps us to have a more productive conversation with others supporting servers, storage, or applications to pinpoint exactly what is wrong.”

- Senior Network Tools Architect, private financial services holding company

ESG uncovered that Riverbed's Unified NPM solution helped multiple people responsible for different parts of the IT environment to collaborate when determining the root cause of a problem. One popular example was dealing with slow application response. Typically, end-users “blame” the network in this situation. Individual teams focused on different

components of the IT environment—network, application, server, storage—would rely on their own data to finger-point. However, all teams had visibility gaps and operated without a holistic view of what was actually causing the problem. With the Riverbed Unified NPM solution, these teams could collectively access the same data to accurately view how the current environment was operating. All parties could effectively reduce the “finger-pointing” and jointly agree on what exactly is the root cause, to work together to resolve the issue.

ESG determined that the Riverbed Unified NPM solution facilitates collaboration, resulting in less time spent on identifying the cause of issues affecting IT performance and availability. Faster resolution is achieved, thus increasing uptime and end-user productivity. Simultaneously, less operational costs are incurred when multiple teams can easily agree upon the problems to address and quickly derive appropriate solutions.



Support for Network Security

ESG's interviews revealed that the fidelity and scale of data gathered and analyzed by Riverbed Unified NPM also delivered value to those outside of IT operations. Specifically, we found that security teams have begun to leverage Riverbed Unified NPM's visibility to detect and address a number of security threats such as malware, blacklisted sites, and DDoS attacks. With many organizations managing fully distributed workforces due to COVID-19, network security teams face greater challenges in enforcing network security. The lack of a fixed security perimeter will persist for the foreseeable future. IT operations must now work closely with security teams to prevent security breaches and attacks so that business is not further disrupted.

Data collected at the application, network, and device levels can support security teams in detecting breaches or attacks more quickly. Those who ESG interviewed specifically noted how instrumental NetFlow data, collected by the NetProfiler module, was in identifying security breaches. In some instances, we also found that the network and security teams collaborated to pinpoint the cause of a security event. As a matter of fact, the time for identifying and resolving an attack decreased from days to hours. Sharing the data and holistic view obtained via Riverbed Unified NPM can provide network security teams with an additional perspective when tracking down gaps in network security. When less time is spent on recovering from a security breach or attack, end-users

“Just yesterday, we found that someone was attacking a Skype server. If it were not for Riverbed Unified NPM, we would not have been able to narrow down the culprit. We found the exact IP that was attacking us from the outside. Otherwise, security was just going to start blocking IP addresses.”

- Senior Network Tools Architect, private financial services holding company

have more time to perform their jobs, while IT and security teams can focus their efforts on more strategic, value-adding activities. IT operational efficiency directly translates into reduced operational costs.

The Bigger Truth

Increased complexity in the IT environment has been a constant over the past few years. The COVID-19 pandemic has exacerbated that complexity, and organizations had to respond by quickly adapting their operations. Managing the networks underlying their IT environments, while always important, has become even more critical to address. Even before the pandemic, ESG research found that, from a network infrastructure perspective, ensuring network security, maximizing application performance levels, maximizing application availability, and fostering employee productivity by mitigating or eliminating constraints for remote/home/mobile workers were among the nine most cited capabilities that organizations believed would have the greatest impact on helping their organizations grow their businesses in 2020.³ These reasons seem to ring true now more than ever, given current events.

The Riverbed Unified NPM solution can help organizations to effectively manage and monitor their IT environments using an integrated set of modules to collect, integrate, and analyze network, application, and device data. With the Riverbed Portal, multiple teams and levels within organizations have a customized, role-based common view of the IT environment in real time. The combination of AppResponse, NetProfiler, NetIM, and Portal supports efforts to efficiently identify and resolve issues that can decrease IT performance, availability, and security.

Using our Economic Value Validation process, ESG validated that the Riverbed Unified NPM solution can increase IT operational efficiency, thus minimizing overall operational expenses. Our interviews with current Riverbed Unified NPM customers revealed to ESG that the solution indeed adds economic value. Using multiple third-party, non-integrated tools, troubleshooting issues at the application, network, and device levels can be cumbersome and time-consuming. With Riverbed Unified NPM, data is continuously gathered, integrated, and analyzed so that multiple groups, spanning IT operations, management, and executives, have up-to-date views of the overall health of their IT environment. Issues to address immediately can be quickly identified, and resolution time can decrease from days/weeks to hours/days. Because the web-based Portal serves as the “single source of truth,” collaboration between groups responsible for different parts of the IT infrastructure is facilitated, as they all have the same, holistic view of the IT environment’s status. Data gathered by Riverbed Unified NPM has also become more valuable to security teams, as they face greater challenges in enforcing network security.

ESG’s overall assessment is that organizations can leverage the Riverbed Unified NPM solution to help identify network and application-impacting issues quickly, determine the most appropriate resolution across multiple teams crossing organizational levels, improve collaboration, and support the reinforcement of network security. Ultimately, these effects contribute to lower MTTI and MTTR and increased end-user productivity, which lead to lower operational expenses.

The economic advantages to be gained by implementing the Riverbed Unified NPM into your IT environment are clear. Should you wish to improve your ability to manage and monitor your IT environment, we suggest taking a closer look at Riverbed’s Unified NPM solution.

³ Source: ESG Master Survey Results: [2020 Technology Spending Intentions Survey](#), January 2020.

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