Introduction
Together Riverbed SteelHead™ and SteelCentral provide the leading solution for optimization, visibility, and control of all applications in the hybrid enterprise. Using passive, TCP/IP monitoring, SteelCentral AppResponse provides real-time visibility of over 60 metrics for each IP conversation between a client and server. AppResponse appliances are typically deployed in a data center and configured to use a network SPAN or tap that exposes the appliance to IP traffic. Prior to AppResponse 9.5, metrics from WAN-optimized network environments—such as SteelHead—were less reliable due to the acceleration and IP addresses that could change when they pass through WAN-acceleration devices.

Riverbed Technology now integrates AppResponse 9.5 with SteelHead 9.0 to provide complete visibility of performance metrics for HTTP/HTTPS web pages viewed by client IPs through WAN-optimized and non-optimized networks. Using unique identification tags, AppResponse stitches together the performance of a web page as it transitions through a network with and without SteelHead appliances. You can also view the performance of partially optimized pages.

Visibility of Optimized Web Pages
When end users visit web application pages, AppResponse 9.5 identifies where the delay occurs for each element of the web page—whether it’s the network or server—as well as what components are accelerated and how well they perform when rendered on a client device, as shown in Figure 1.

This unique capability enables network and application engineers to accurately identify the sources of pain for end users who are viewing mission-critical web pages served from both data centers and cloud-hosted environments.

AppResponse 9.5 and SteelHead 9.0 when working together, extend the visibility of web transaction analysis (WTA) from the data center to branch offices. You can now directly evaluate the effects of SteelHead optimization on end-user experience of web and SaaS applications between your data center and branch offices, and between branch offices and cloud servers.

Benefits
With AppResponse 9.5 and SteelHead 9.0, you can:

- Quantify end-user experience of web applications at branch offices
- Compare end-user experience in non-optimized branch offices to optimized ones
- Quickly identify web apps, pages, objects, sites, and users with slow response times
- Compare optimized and non-optimized branch office web application response times to each other
- Monitor and troubleshoot the performance of SteelHead-optimized SaaS applications such as Salesforce.com
- Break down HTTP response times into network vs. application delays for specific pages, objects, and applications
Using AppResponse with SteelHead

The integration between AppResponse and SteelHead provides IT staff the ability to troubleshoot mission-critical web application performance and answer these general questions:

- What pages are the slowest and are they typically slow or just a temporary event?
- What are the web page response times for end users from multiple geographic locations?
- How does end user experience vary for web page views over a day, a week, or a month?

Specific Use Cases

Using AppResponse with SteelHead accelerated web application pages, you can view a dashboard such as the one shown in Figure 2 and expect to answer the following types of questions for each use case:

- **Troubleshooting support calls**—I just got a user ticket on slow application from a particular user. How can I compare his or her user experience over time?
- **Change management and risk reduction**—I want to do certain changes in my environment to upgrade services or configure more web pages with SteelHead acceleration. How can I verify that user experience improves after the change?
- **Mean time to innocence**—How can I quickly identify whether the issue is a SaaS provider’s problem, a server problem, a network problem, or an application problem to clear the innocent and reach out to the team responsible?
- **Collaboration across teams**—If it does not look like a server issue, what are the next steps for debugging the issue? How do I communicate the problem with multiple stakeholders? Which parameters should I compare against my other monitoring tools?
- **Usage analysis**—During a Monday morning sales call, a particular web dashboard gets accessed. How many page views occur for this particular page and what are the page views for this same dashboard on other days?
- **Priority analysis**—A lot of pages are slow and some people are complaining but others are not. Which pages are accessed the most by users and performing poorly?

SaaS Salesforce

Using AppResponse 9.5 with SteelHead SaaS, you can get business-critical dashboard reports of the performance of your Salesforce application hosted from the cloud, such as the one shown in Figure 3 and answer the following questions:

- How many users per site using this app (helps to find application adoption)?
- What is the device OS that is accessing the application (Windows, Mac)?
- What are the browser types and versions?
- Who are the top users?
- What are the slowest pages?
- What’s the average user experience in terms of page load time?
- What bottlenecks occur at quarter end, times of day, or when a number of users access Salesforce from multiple locations?

**Note**—You can set user-defined thresholds that trigger alerts on metrics for any of your mission-critical web applications monitored by AppResponse, such as Salesforce.
Deployment and Installation

This release supports two deployment scenarios for viewing WAN-optimized web application metrics:

- **Data Center Deployment**—AppResponse monitors optimization between branch offices and the data center, with a SteelHead in the data center and one in each branch office that you want to monitor.
- **Cloud Deployment**—AppResponse monitors optimization between a branch office and a cloud server, with a SteelHead in the cloud and each branch office that you want to monitor.

In both cases, you must enable SteelFlow WTA on SteelHead appliances for AppResponse to have accurate visibility and metrics of your optimized web application traffic.

**Data Center Deployment**

This example in **Figure 4** illustrates a data center deployment with one AppResponse appliance in the data center and one SteelHead in the data center and another SteelHead in each branch office that you want to monitor.

AppResponse pulls SteelFlow WTA metrics from each SteelHead to provide visibility into optimized traffic.

**Cloud Deployment**

This example in **Figure 5** illustrates a scenario where users in a branch office access Salesforce web applications from the Cloud. Riverbed has an agreement with Akamai to enable the SteelFlow WTA monitoring feature on their SteelHead SaaS. To monitor and analyze SaaS applications such as Salesforce, you need the following:

- SteelHead CX or EX in the branch office
- SteelHead CX for IaaS clouds or SteelHead SaaS near the SaaS application server in the cloud
- An AppResponse 9.5 appliance that can connect to the branch office SteelHead, usually located in the data center
Partial Optimization

In many cases, not all web pages served to your end users are optimized. For example, you might have some components of your web application pages served from multiple data centers in your infrastructure or third party applications for maps or weather that might not have SteelFlow WTA enabled for some traffic, and in other cases you might not have a deployed SteelHead.

With AppResponse dashboards, you can view fully-optimized vs partially-optimized page times by client group as shown in Figure 6, and get a quick understanding of the end-user experience for accessing a client group of pages based on optimization.

Likewise, you can compare partially-optimized vs non-optimized pages so that you have the complete picture of the performance of your web application pages at any incremental stages that you might be in when deploying SteelHead acceleration.

Riverbed Application Performance Platform™

The Riverbed Application Performance Platform is a set of integrated software solutions that give companies the flexibility to host applications and data in the locations that best serve the business while ensuring the flawless delivery of those apps to better leverage global resources, radically reduce the cost of running their business, and maximize employee productivity.

SteelCentral AppResponse is part of this complete application performance platform that scales with your environment—*from development through production*—to provide monitoring, diagnosing, and the ability to fix any application delivery challenges you have.

Fast, reliable applications for your end users enhances business performance and gives you a quick return on your investment using Riverbed performance engineering and monitoring solutions.

About Riverbed

Riverbed Technology is the leader in Application Performance Infrastructure, delivering the most complete platform for location-independent computing. Location-independent computing turns location and distance into a competitive advantage by giving IT the flexibility to host applications and data in the most optimal locations while ensuring applications perform as expected, data is always available when needed, and performance issues are detected and fixed before end users notice. Riverbed’s 24,000+ customers include 97% of the Fortune 100 and 95% of the Forbes Global 100. Learn more at [www.riverbed.com](http://www.riverbed.com).

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