riverbed®

Riverbed AppResponse

When it comes to improving network and application performance, it's often a race against time. Every minute spent troubleshooting is a minute your users are unproductive.

Business Challenge

Today's network manager is facing a much different network than a few years ago. There are a whole host of new architectures and technologies that are being adopted within the enterprise that can affect network performance. For example, Voice over Internet Protocol (VoIP) is one of key drivers to upgrade the WAN and real-time video and on-demand streaming can represent up to 75% of network traffic. With 91% of organizations using cloud and 81% adopting a multi-cloud strategy, it's not surprising that 45% of all network traffic originates from external, public cloud applications. Add to that the ongoing trends of SD-WAN, mobilization, and webification of applications and the network team has their hands full trying to learn these technologies, how they affect network performance.

Network-based Application Performance Management

The network is the only thing that connects all digital transactions. Riverbed® AppResponse delivers full stack application analysis—from packets to pages to end-user experience—letting you observe all network and application interactions as they cross the wire, whether they are encrypted or not. Using powerful, flexible network and application analytics and workflows, AppResponse speeds problem diagnosis and resolution, helping you get to answers fast.

Ubiquitous visibility
Deploy anywhere and everywhere you need on-premise, virtual or cloud visibility. AppResponse is designed to meet your hybrid monitoring needs.

Actionable Insight
There's a saying that packets are the ultimate source of network truth. AppResponse captures and stores all packets all the time so the details are always there when you need them.

Fast Answers
Built-in policies and adaptive thresholds highlight brewing issues happening on the network, allowing you to get ahead of them before they become full-blown incidents. Streamlined troubleshooting workflows and HD (high-definition) data help you determine answers quickly—typically in minutes.

Add-on Modules

Riverbed AppResponse offers a variety of optional modules that provide specialized analysis. These modules include:

Application Stream Analysis (ASA)

The ASA module provides real-time and historical network-based application analysis. It monitors all TCP and UDP applications and other L4 protocol-based metrics. ASA also provides rich response time composition metrics so you can quickly determine where to focus your troubleshooting efforts—the network, application, or client.

Web Transaction Analysis (WTA)

The WTA module offers real-time web application performance analysis for monitoring business transactions. It auto discovers all URLs and end-user activity to simplify monitoring. View end-user experience for web pages as well as detect page errors, page rates, unique users, and more. Geographic heat maps make it easy to focus triage efforts on critically affected users and sites.

Citrix Analysis (CXA)

CXA correlates front-end user sessions to back-end transactions to understand where and why problems are occurring in Citrix Virtual App and Desktop (formerly XenApp and XenDesktop). Follow individual user transactions through the Citrix tier to troubleshoot performance issues. Investigate utilization, latency, and ICA priorities.

Database Analysis (DBA)

The DBA module identifies the impact of the database on end-to-end application performance. By monitoring database performance at the transaction level, you can identify the particular SQL statement or database call responsible for application delay and equip your database team with actionable information. Its agentless approach introduces zero overhead on database operation and does not require privileged access to database systems or database diagnostics logging.

Unified Communications Analysis (UCA)

The UCA module provides real-time and historical analysis of voice and video performance calls. Drill down to the underlying problem to understand the interaction of voice and data traffic. Proactively monitor voice call quality and resolve issues before they affect users. Set meaningful SLA's based on how call quality is affecting the business.

Key Features

Network Forensics

The Shark Packet Analysis (SPA) module is part of the base package and delivers near real-time traffic analysis of packet events with 1-second granular displays with microsecond resolution.

Deep packet inspection (DPI)

Auto-recognizes more than 2,000 popular business and recreational applications

Multi-capture jobs

- Perform multiple, separate capture jobs to them and dedicate different amounts of storage or filtering

Selective recording

- Capture and store just the header, the header and the first xx bits, or the whole packet. You decide

Smart packet indexing

- Real-time indexing of packet data means you can quickly search terabytes of data—without having to drag packets across the network

Network-layer analysis

- Provides support for network-layer analysis, such as ARP, CIFS, microburst, broadcast and multicast issues

Address management protocols

- Troubleshoot DHCP and DNS issues

Application-specific analysis

- All variations of FIX
- Market Data Feed protocols: Aquis, Euronext, PITCH, LSE, CTS, CQS, OPRA, UQDF, UTDF, OMDF, IC, TMX
- Market Data Gap Detection views
  - Market Data Gaps Over Time
  - Market Data Gap Details
  - Market Data Gaps Overview
- VDI: VMware PCoIP, Citrix ICA and CGP

Application Analytics

The Application Stream Analysis (ASA) module all TCP and UDP app and corresponding metrics with historical summary info.

Real-time and historical data analysis

- Monitor live performance for all users all the time, and alert against SLAs

- Roll-up metrics at 1 min., 5 min., 1 hour, 6 hour, and 1 day granularity

- Store data up to 3 years

- Stores aggregate data and individual flows and pages so you can get to the answer faster without having to go to the packets as often

- Analyze historical information for trending and capacity planning

Flexible data analysis

- Continuously automated calculation of 60+ TCP and UDP metrics

- Aggregate traffic by applications, users, servers, clients, conversations, and host groups. Define a hierarchy of host groups

- Understand network bandwidth utilization by remote offices

Virtual Interface Groups (ViFGs)

- Auto-discover VLANs

- Group up to 32 VLAN IDs

- Capture traffic from multiple VLAN IDs

Response time analysis

- Response Time Composition Chart graphically shows network, server and client delay metrics include:

- connection set up, server response, payload transfer, retransmission delay, network round trip time (out), network round trip time (in), user response

- True min and max metrics
  - User response time
  - Server response time
  - Round trip time

Web Application Analysis

The Web Transaction Analysis (WTA) module provides real-time web application performance for monitoring business transactions.

Web page time analysis

- Auto-discovers all URLs, page families, and end-user activityView metrics by Slow Pages, Page Views, Page Time, Network Busy Time (per page), Server Busy Time (per page), Unique Users, and Unique Affected Users

End-user experience monitoring (EUM)

- View response time for web pages for a true end-user perspective of performance. Passively monitor browser load time for the page level and object level of a web page or group of web pages as monitored as a single transaction

Web transaction performance

- Detects abnormal web transaction performance and directly alerts on common web application problems such as page errors, response/page, page rate, # of slow pages, and slow page times

TruePlot®

- TruePlot can render hundreds of thousands of transactions at once to reveal patterns hidden by traditional line charts. TruePlot doesn't average-out spikes and can clearly differentiate symptoms vs root causes

Group and monitor related pages or users

- Easily monitor a group of related web pages in a common way. Customize monitoring to flexibly map your web pages to an application. Group page views together or separate pages that are monitored together by default

- Group originating IPs of users who are using/downloading the pages

Geographic heat map

- Geographic display of performance and usage for Web applications and page views to focus triage efforts on the most critically affected users and sites

- View by web application, region, platform, and browser type

TLS Analysis

- Track SSL/TLS handshakes metrics and certificate information

- Find number and versions of producing TLS/SSL, certificate status, cipher suites, error types, renegotiation, etc.

Database Analysis

The Database Analysis module (DBA) provides automatic recognition and real-time analysis of major SQL databases.

Auto recognition

- Automatic recognition of databases on all network addresses and ports

- Major SQL databases recognized

Database analysis

- Layer 7 packet decoding acquires database sessions, SQL queries, stats and timing info

- Full-text parsing and standardization of every SQL query

- Multi-key access to database sessions and SQL queries

VoIP and Video Call Analysis

The Unified Communications Analysis module (UCA) provides real-time and historical analysis of voice and video performance calls with the ability to drill-down to the underlying problem.

- Automatically recognizes more than 140 voice, audio and video codecs, including SIP, H.323 and Cisco SCCP

- Infer call quality from RTP or decrypt encrypted signaling

- Define your own call quality definitions by codec

- Signaling ladder diagram is in Riverbed Packet Analyzer Plus

UCA Insights

- All UC traffic - VOIP/Video summary shows all UC traffic being monitored, e.g. Zoom and Microsoft Teams

- UC Host Group - Shows VOIP/Video load, performance and network anomalies of an individual host group

- Summary: VOIP/VIDEO CALL - summary of individual calls

UC Navigator Analysis

- All UC traffic, call user groups, media types, individual calls, individual channels

Citrix Analysis

- Supports Citrix Virtual App and Desktop (formerly XenApp and XenDesktop)

- Correlate front-end user sessions to back-end transactions to understand where and why problems are occurring

- Follow an individual user session through the Citrix tier to understand where and why problems are occurring

- Monitor client-side latency, application execution time, host resource allocation, and infrastructure latency

- Trend virtual desktop performance KPIs such as hypervisor, remote file share, and virtual machine performance

- Track remote display latency by VDI server and data center to identify problems and impacted users by geography or business location
- Monitor server-side and port latency, turns, utilization, connections, and retransmissions

Web UI

Insights
- Pre-defined, intelligent analysis and workflows that are functional right out of the box. Enables novice users to use AppResponse and gain expertise over time. Create, save, and share your own insights

Navigator
- Expert analysis with multi-dimensional drill down and pivots. Allows you to explore all dimensions of your analysis

Search
- Flexibly search for anything that is stored in the database, such as host groups, applications, IPs, IP conversations, and more

Reporting
- Share analysis with colleagues and executives

Certifications
- USGv6
- FIPS 140-2

Internationalization / Localization
- Simplified Chinese (zh_CH)

Miscellaneous

Authentication
- SAML-2.0, RADIUS/TACACS+ authentications

PFS Encryption
- Leverage PFS API that works with several partners to support encryption that enables completely private key exchanges

Analytics
- Adaptive Thresholds compares current traffic to historical baselines and alerts on anomalous behaviors
- Adaptive built-in policies support:
  - App Response Time
  - Host Group Traffic

Alerting
- Built-in policies, available out of the box, alert on events such as application availability, degradation, and network packet loss
- Flexible reporting with ability to save, email and schedule reports

Incident Notifications
- ServiceNow - AppResponse can send incident tickets to ServiceNow for central IT service management
- Encrypted Syslog- AppResponse alerts can be sent to any remote syslog
- SNMP trap - Alerts can also be sent to an SNMP trap

Appliance health monitoring
- Appliance sub-system status, e.g., power supply, RAID, etc.
- Disk storage usage tracking
- Storage configuration data
  - RAID level
  - Allocation for different performance data types

Customizable disk space allocation
- Customize allocated space for your packet, microflow indexes, aggregates, and transaction metrics storage either by data volume or retention time

Comparison to earlier times
- Yesterday, last week, 4 weeks ago

Rest API
- Support for AAA, managing time/time zone, managing host groups, getting performance data and packet data, and packet export

Built-in SteelScript for enhanced automation
- See SteelScript code to access data in UI widgets; copy to clipboard to edit and quickly build custom automations as you require

Integration Links

Allow users to contextually integrate with other Riverbed® NPM or external products:
- Aternity EUE and APM
- NetIM

External Links
- ARIN WHOIS Search
- Geotool
- Traceroute
- Trusted Research Portal
- Malware Domain List

Riverbed AppResponse Cloud

Provides real-time and historical network and application visibility into cloud environments.

Cloud vendors supported
- AWS
- AWS GovCloud West
- Azure

Supported visibility
- Network forensics (SPA module)
- Network and application analytics (ASA module)

Cloud telemetry options

To obtain packets in the cloud, AppResponse Cloud works with:
- AWS VPC Traffic Mirroring
- Azure Virtual Network Tap (offered in preview mode by Microsoft)
- Cloud packet brokers

Integrations

Riverbed® NetProfiler
- Riverbed AppResponse exports flow to NetProfiler for end-to-end monitoring and reporting

Riverbed® Transaction Analyzer Plus
- Riverbed AppResponse provides one-click access to Riverbed Transaction Analyze Plus for detailed transaction modeling for root-case analysis and predictive studies

Riverbed® Packet Analyzer Plus
- Riverbed Packet Analyzer Plus is graphical packet analysis software for Riverbed AppResponse

Riverbed® Portal
- Riverbed AppResponse integrates with Riverbed Portal for blended viewing of end-user experience, application, network, UC, and infrastructure performance

Network tap aggregators
- Riverbed AppResponse adopts the precision time stamps from network tap aggregators such as Gigamon, IXIA, cPacket, Big Switch, and Arista
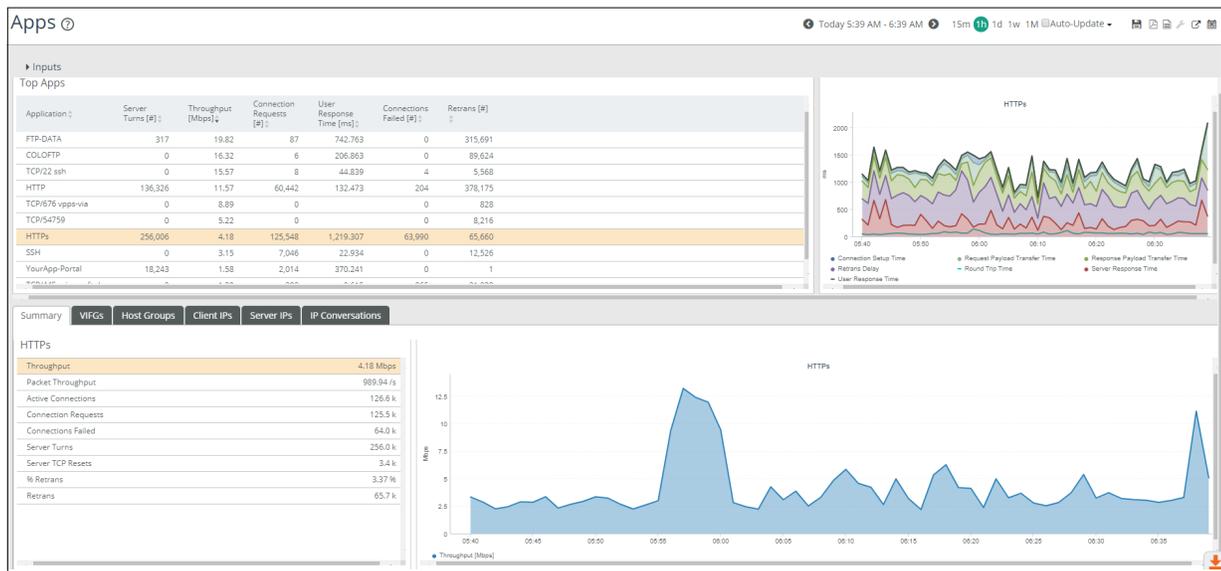
HTTPS APP INSIGHT

Figure 1

Riverbed AppResponse provides easy-to-use "Insights" that show all the relevant information for troubleshooting basic problems. This App Insight shows the top apps, the response time composition, and basic summary info about a selected app. It then allows you to investigate further by clicking on the tabs.

Learn more

For more information about Riverbed AppResponse specifications, please visit riverbed.com/appresponse11.

About Riverbed
Riverbed enables organizations to maximize visibility and performance across networks, applications and end-user devices, so they can fully capitalize on their cloud and digital investments. Riverbed solutions enable organizations to visualize, optimize, remediate and accelerate the performance of any network for any application, while supporting business objectives to mitigate cyber security risk and enhance the digital experience for all end-users. Riverbed offers two best-in-class product lines: end-to-end visibility – including NPM, APM and EUEM – that delivers actionable insights; and network and acceleration solutions, including application acceleration (SaaS, client and cloud acceleration), WAN optimization, and enterprise-grade SD-WAN. Riverbed's 30,000+ customers include 95% of the *Fortune* 100. Learn more at riverbed.com.

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