



Riverbed Performance Management and Arista DANZ

Redefining the Economics of Cloud-scale Network Visibility

Riverbed® Performance Management solutions give you the visibility and actionable insight to deliver the application performance users and the business demand. The unique combination of end-user experience monitoring, transaction tracing, deep component monitoring, and IT infrastructure/network management maximizes the performance, availability, and productivity of critical applications.

Riverbed Technology and Arista have collaborated to develop a solution roadmap that provides cost-effective application-aware network performance management, monitoring and visibility specifically suited to the modern cloud-scale data center. The combined solution offers comprehensive end-to-end visibility and troubleshooting for critical business applications and network services over complex and evolving software-defined networks (SDN), cloud, virtualization and application infrastructures regardless of underlying services and without the need for proprietary and inefficient monitoring fabrics.

Benefits

- **Cloud ready** – Full network and application visibility for cloud scale networks with integrated cloud and virtualization capabilities from 1Gbps up to 100Gbps per link
- **Comprehensive** – Capture, analyze, and monitor traffic from anywhere in the network to provide end-to-end visibility
- **Easy to deploy** – Inserts instantly into any network infrastructure using Arista Data ANalyZer (DANZ) advanced monitoring and analytics using existing TAP and mirroring (span) ports.
- **Non-intrusive** – Passively integrates with Riverbed Performance Management appliances, as well as any other network and infrastructure at any scale.
- **Economical** – compared to proprietary monitoring fabrics Arista's DANZ architecture provides an extensible cloud-scale monitoring infrastructure based entirely on standard protocols and proven and repurpose-able data-center class switches.
- **Scalable** – allows deployment of small monitoring infrastructure for 1gbps networks and migration to multiple 100gbps network connections through deployment of the industry's most scalable and capable cloud switching platforms.

Arista Network's software-defined cloud networking solutions have a range of instrumentation and monitoring capabilities built-in, including software and hardware integrated services for precise packet capture and monitoring, dedicated monitoring TAP aggregation mode, precision network performance analytics, and flow analysis all at 1/10/40 & 100Gbps.

Arista's high-performance cloud networking works together with Riverbed Performance Management solutions to provide unprecedented application performance visibility, in-depth analysis, cross-tier visibility, and fast network diagnostic capabilities at previously unrecognized cloud scale and cloud economies.

Riverbed® Cascade® Shark and Riverbed® OPNET AppResponse Xpert™ appliances provide continuous monitoring of end-user experience at the application-level for all web and enterprise applications, and allows IT staff to drill down into network, cloud, virtualization, application and storage infrastructures to optimize all elements contributing to application performance and end-user experience.

The Riverbed Performance Management appliances provide real-time analysis over network and application performance parameters and allow placement of probes at any place in the network in concert with Arista DANZ for in-depth, real-time packet visibility and traffic recording.

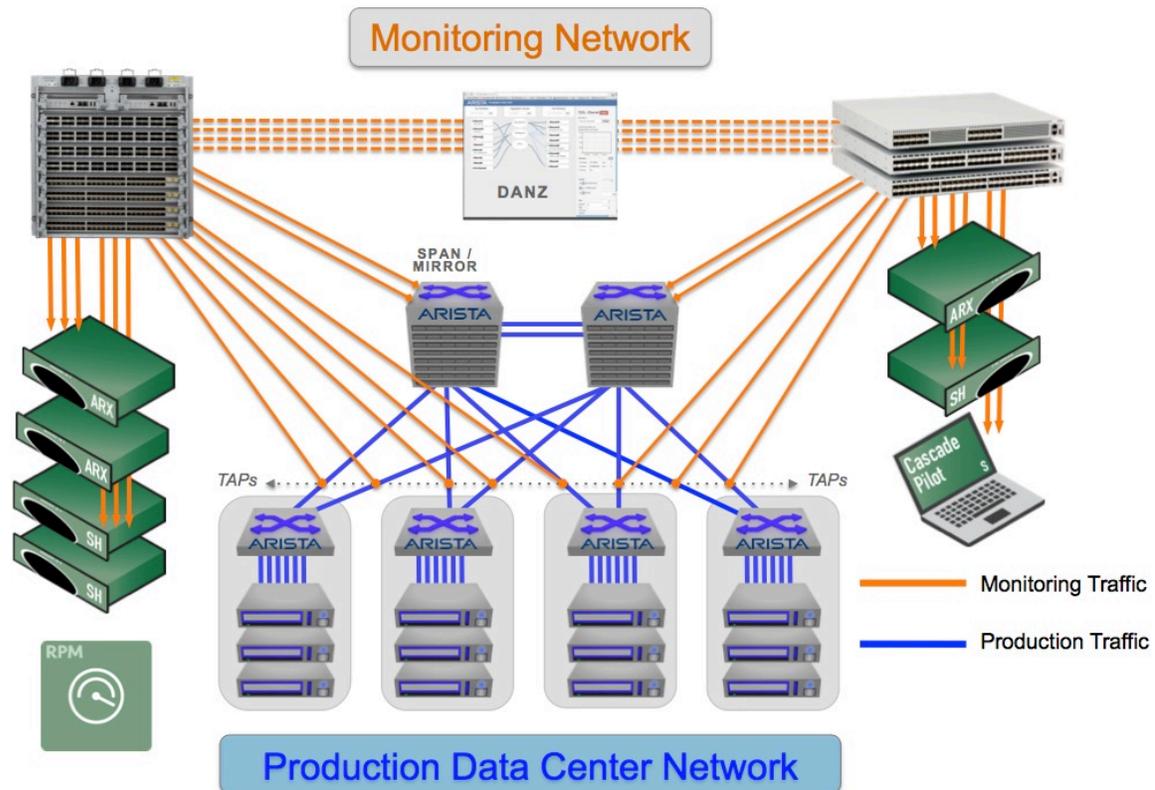


Figure 1. Arista Switches with DANZ, shown as both infrastructure with advanced port-mirroring (a.k.a., SPAN) enabled at spine layer, and TAP aggregation mode enabled in dedicated monitoring switches for scalable traffic capture, conditioning and load balancing of visibility traffic in a large cloud-scale data center network.

Riverbed Performance Management appliances can be connected to existing SPAN or mirror ports on network firewalls, switches and routers while aggregation, timestamping, load-balancing and conditioning of traffic can be accomplished at up to 100Gbps wire-rate before it is delivered to the Riverbed Performance Management appliances using Arista's DANZ TAP Aggregation features, thus assuring tool performance and scaling.

Through a common set of views and metrics, Riverbed Performance Management products provide an enhanced cross-organization view of network and application performance that is made more efficient, scalable, and precise through integration with Arista's advanced monitoring and DANZ TAP Aggregation capabilities.

Application-aware network performance and end-user experience monitoring

Your infrastructure and network exist for one reason: to deliver the applications that matter to your business. You need to understand dependencies between your applications and network, be alerted to issues before business is impacted, and accelerate troubleshooting. Riverbed provides the performance management solutions you need to manage network performance from the application perspective. The Riverbed solutions include the following capabilities:

- Advanced application and transaction insight
- Comprehensive end-user experience monitoring and response time analysis
- Deep network intelligence
- Unified communication management
- Automated application discovery and dependency mapping
- Advanced analytics for early warning notification

Riverbed performance management solutions provide IT with the visibility and actionable insight to help deliver the application performance that users and business demand.

End-to-End Performance Awareness in any Large-Scale Data Center Environment

The sheer complexity of the evolving data center network and application space have rendered legacy tools incapable of providing visibility into network and application behaviors without a new class of cloud-scale monitoring capabilities that provide an integrated view of hyper-scale, highly-dynamic and distributed network, compute and storage infrastructures and the communications that they depend upon. This is best achieved with an integrated approach to end-to-end visibility and monitoring using the leading cloud networking platforms in the industry.

Arista Networks DANZ is an integrated feature set of Arista's Extensible Operating System and is currently available on Arista Networks 7150 and 7500-series switches. DANZ provides a solution to monitoring and visibility challenges at 1/10/40 & 100 Gbps with unmatched price-performance and precision. The Arista DANZ software features give IT operations and planning departments the following capabilities:

- Aggregate, replicate and capture traffic for processing without affecting production
- Apply advanced filtering and precision time stamping at wire rate in hardware

Conclusion

Arista and Riverbed Performance Management's joint monitoring, performance and visibility solutions provide comprehensive, end-to-end performance awareness and troubleshooting capabilities in any large scale data center environment with a path to future SDN and ultra-high speed network platforms not offered by any other combination of platforms.

Visibility into any application and any virtualization or cloud environment is provided by flexible traffic selection and redirection to the Riverbed Performance Management advanced monitoring appliances through Arista's DANZ capability. Baselines can be established for application performance behaviors that can drive both capacity and resource planning decisions as well as helping to troubleshoot impending service overloads and interruptions. Cloud services can be scheduled and planned to re-allocate loads across virtualized infrastructure based on true application traffic demands, and customer satisfaction and end-user experience can be preserved.

About Arista

Arista Networks was founded to deliver software-defined cloud networking solutions for large data center and computing environments. Arista's award-winning 1/10/40/100 GbE switches redefine scalability, robustness, and price-performance, with 2000 customers and more than one million cloud networking ports deployed worldwide. At the core of Arista's platform is EOS, the world's most advanced network operating system. Arista Networks products are available worldwide through distribution partners, systems integrators and resellers. Additional information and resources can be found at: <http://www.aristanetworks.com/>

About Riverbed

Riverbed delivers application performance for the globally connected enterprise. With Riverbed, enterprises can successfully and intelligently implement strategic initiatives such as virtualization, consolidation, cloud computing, and disaster recovery without fear of compromising performance. By giving enterprises the platform they need to understand, optimize and consolidate their IT, Riverbed helps enterprises to build a fast, fluid and dynamic IT architecture that aligns with the business needs of the organization. Additional information about Riverbed (NASDAQ: RVBD) is available at www.riverbed.com.

- Monitor, capture and correlate congestion and microburst events in real time
- Deliver application layer feedback directly to applications and tools
- Integrate with any standard third party API and application/network management tools, such as Riverbed Cascade® Shark and Riverbed OPNET® AppResponse Xpert™ appliances
- Achieve all of these features in Arista's full featured switches without additional equipment
- Manage through industry-standard CLI, Linux (JSON) API, or integrated Web-based GUI

With Arista DANZ, organizations that have requirements to perform critical analytical and monitoring functions with increasingly higher data volumes and higher network bandwidths can maintain security, compliance and reporting for all traffic without the addition of proprietary out-of-band monitoring infrastructure or backhaul networks. Troubleshooting applications and performance problems, performing traffic interception when required (such as for lawful intercept or compliance), and managing overall customer satisfaction and response times can be accomplished cost-effectively with limited new investment and using existing tools.