

Riverbed's Satellite Acceleration

Accelerate Satellite WANs with Riverbed

Satellite WANs are used to connect a variety of environments, including offshore locations, mobile units, and very remote branch offices. Given the high latency and low bandwidth of satellite connections, application performance is often very poor, and collaborating effectively can be close to impossible. Using Riverbed Steelhead appliances, organizations can achieve LAN-like performance over satellite connections. Riverbed provides out-of-the-box compatibility with any satellite network to accelerate the broad range of applications that remote workers need to access effectively over the WAN.

Organizations of all sizes depend on satellite connectivity to connect their far-flung offices, facilities, and mobile teams. But while demands for applications and data have dramatically increased over the past few years, the performance of data transfers over satellite has remained roughly the same. With a workforce that is increasingly distributed, organizations that depend on a satellite-based WAN are finding it harder to get the job done efficiently.

By overcoming the combined challenges of bandwidth limitations and latency on the WAN as well as storage infrastructure challenges, Riverbed Steelhead appliances have successfully enabled satellite-based WANs to deliver LAN-like performance to remote locations.

The Root Causes of Poor Performance

Satellite networks are often severely bandwidth-constrained and possess high latency. Links may be as narrow as 64K and possess latencies of 250, 500, 750 milliseconds or more. This combination of conditions often leads to congested satellite connections and performance so poor that applications frequently time out.

Today's enterprises must support employees and computer resources that are distributed throughout the world in order to meet demands of the global marketplace. When critical data is no longer in the same location as employees, the challenge of enabling a productive workforce is magnified. Traditional approaches involve buying more bandwidth or deploying servers in every branch office. Since increasing bandwidth does not improve the latency of connections, and complex applications such as ERP and document management cannot always be deployed in a distributed manner, many enterprises have simply accepted poor application performance in branch offices.

Real-time collaboration, file sharing, and application access over satellite become feasible with Riverbed, in many cases without any bandwidth upgrades. Any application that runs over TCP will benefit from the data reduction capabilities of Data Streamlining and the TCP optimizations of Transport Streamlining. The most common application protocols will also benefit from Application Streamlining. All applications can also benefit from QoS functionality that prioritizes applications based on bandwidth and latency, protecting real-time traffic while accelerating delay-tolerant file and application traffic.

Solution Overview



Key Benefits:

- Ensure all employees can access key applications and data, regardless of location
- Simplify backup and replication of remote data
- Consolidate remote IT infrastructure



Solution Overview

Out-of-the-box Satellite Compatibility

Riverbed's Steelhead appliances work over satellite without any custom code or specialized modifications of the Riverbed Optimization System (RiOS). In fact, given the strength of Riverbed's abilities to minimize the impact of latency, satellite connections can see dramatic performance improvements immediately.

Riverbed Steelhead appliances have been used across many different satellite connections and providers, including VSAT, TDMA, UHF, and more. Riverbed is designed to work over any IP connection. Even hybrid networks that consist of satellite and terrestrial links can immediately benefit from the acceleration capabilities of Steelhead appliances.

Accelerating Applications to Offshore Oil Rigs

RigNet, a provider of satellite connectivity and managed services to oil companies, was looking for a solution to overcome the typical latency of satellite connections for their customers.

Using the Riverbed Steelhead appliance, RigNet has been able to accelerate applications to terrestrial locations as well as offshore oil rigs.

"We deployed Steelhead appliances over our satellite network with great results. Global customers are seeing an average of 5x – 10x performance improvements over applications as varied as ERP systems, document management, email, and file sharing.

"This is a great productivity-enhancing tool, and can help ensure that employees globally adopt available enterprise applications."

About Riverbed

Riverbed Technology is the performance leader in wide-area data services (WDS) solutions for companies worldwide. By enabling application performance over the wide area network (WAN) that is orders of magnitude faster than what users experience today, Riverbed is changing the way people work, and enabling a distributed workforce that can collaborate as if they were local. Additional information about Riverbed (Nasdaq: RVBD) is available at www.riverbed.com.

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