



NOTICE: New Product Names

The contents of this asset do not reflect our recent product name changes. Here are the new Riverbed® names:

Old Names	New Names
Steelhead	SteelHead™
RPM, OPNET, Cascade	SteelCentral™
Stingray	SteelApp™
Granite	SteelFusion™
Flyscript	SteelScript™
Whitewater	SteelStore™

IN BRIEF

Industry

- » Oil and Gas

Challenges

- » Data replication from 40 offshore drilling platforms to distant land-based facilities
- » Slow application performance on oil platforms
- » Backup process interrupted by lack of bandwidth
- » Network and application latency

Solution

- » 43 Steelhead appliances deployed

Benefits

- » Backup window reduced from 34 hours to four hours
- » Workers on oil platforms receive LAN-like application performance
- » Dramatically improved worker productivity and job satisfaction



Petrobras

Petrobras boosts application performance on offshore oil-drilling platforms with Riverbed

Petrobras (www.petrobras.com) is a Brazilian integrated energy company that specializes in oil and oil byproduct exploration, production, refining, marketing, and transportation. Headquartered in Rio de Janeiro, Petrobras operates in 27 countries and has more than 75,000 employees worldwide. The company runs 112 production platforms, 16 refineries, 30,000 kilometers of ducts, and over 8,000 service stations. Its stock is traded in the world's main stock exchanges.

Petrobras demonstrates a commitment to sustainable development through allying integrated growth with profitability and social and environmental responsibility in the countries where it operates. Petrobras responds to the global energy production challenges by seeking to reduce greenhouse gas emissions in processes and products and to achieve ecoefficiency.

Challenge: Latency limits application performance and data replication on offshore drilling platforms

Petrobras was faced with the challenge of accelerating data replication from its 40 offshore drilling platforms in Campos Basin, territorial waters of Brazil, far from shore back to the corporate headquarters in Rio de Janeiro. Because of the large distance between its remote sites and the headquarters, the company was also faced with slow application performance for workers located on the oil platforms. Slow application performance was reducing productivity and employee satisfaction.

Each time the process was paused, the backup process had to be restarted.

- Carlos Alberto Lage, Petrobras' Land Coordinator of Information Technology and Communication (ITC) for the Campos Basin.

Data backup from remote oil platforms took up to 34 hours. The company received constant requests to interrupt the backup process because it consumed the bandwidth required for basic daily operations. "Each time the process was paused, the backup process had to be restarted," said Carlos Alberto Lage, Land Coordinator of Information Technology and Communication (ITC) for the Campos Basin.

"Doubling the capacity of our links would not give us double the speed in terms of data transfers and access to applications," said Lage. "Our performance problems were mainly caused by network and application latency, which means that bandwidth alone would not solve the issues."

These challenges led Lage and his team to research WAN optimization technology in order to speed data backup times, accelerate application performance, and compensate for the lack of bandwidth.

Solution: 43 Riverbed Steelhead appliances deployed across South America

Petrobras deployed 43 Riverbed® Steelhead® appliances by working closely with a system integrator familiar with the implementation and support of Riverbed solutions.

With 40 appliances on its offshore platforms and three on appliances in South America, Petrobras was able to provide fast and secure connections to the mainland for data replication without investing in other extremely expensive infrastructure products, such as optical undersea fiber. "With WAN Optimization, we knew the speed gain would be at least 40 percent, at a lower cost and with simpler modifications in the ITC infrastructure," said Lage.

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Lage and his team chose the Riverbed Steelhead over its competitors because the Riverbed solution was the only one on the market that provided acceleration capabilities

designed not only for improving end-user performance, but also for accelerating the replication and backup of large amounts of data.

The Petrobras IT organization also utilizes the Riverbed Central Management Console (CMC) to configure, upgrade, and monitor its appliances. Lage and his team are now able to view how WAN traffic is being optimized in each office and offshore platform. This visibility has simplified the management process of the Steelhead appliances.

Benefits: Data replication time reduced by 30 hours, WAN traffic reduced 65 percent

With the Steelhead appliances in place, Petrobras was able to drastically improve communication between 40 offshore oil drilling platforms, headquarters, and other remote offices across the continent. The company is now able to perform daily data backups without negatively impacting end-user performance.

After the deployment, the backup window was reduced from 34 hours to four hours, and WAN traffic was reduced by an average of 65 percent. These reductions increased significantly the bandwidth available for end users to conduct vital day-to-day operations.

The reduced WAN traffic, the high quality of service, and Riverbed's ability to overcome network and application latency have enabled workers on the remote oil platforms to receive the same application performance as their co-workers at the headquarters in Rio de Janeiro. These improvements have significantly increased employees' productivity and job satisfaction.

About Riverbed

Riverbed delivers 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.



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SUMMARY

Although Petrobras is headquartered in Rio de Janeiro, the company operates 40 offshore oil drilling platforms. Workers on the oil platforms were experiencing slow application performance, and it took up to 34 hours to back up their work from oil platforms back to their data center. The replication process was constantly interrupted by the company's lack of bandwidth, as it was highly affected by network and application latency.

After 43 Steelhead appliances were deployed, Petrobras was able to perform daily data replication with no negative impact on end users and workers on the remote oil platforms. The Steelhead appliances reduced data replication time by 30 hours and reduced WAN traffic by an average of 65 percent, thus significantly improving employee productivity and job satisfaction.