

# Accelerate Military Satellite WANs with Riverbed & SkipWare

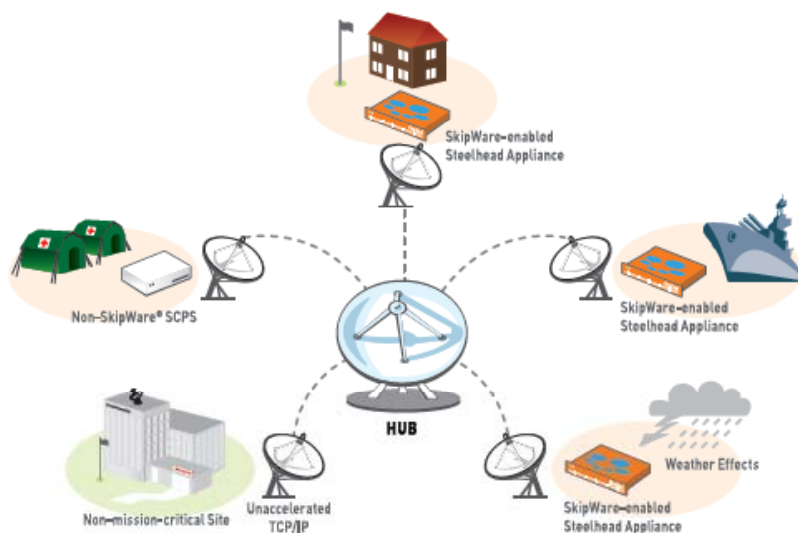
## Combining Interoperability, Standards, and Peak Performance

Military satellite communications are subjected to a harsh array of environmental and operational conditions that can drastically impair the performance of the network. Weather effects, interference, blockage and high-bandwidth-delay products reduce bandwidth efficiency and degrade throughput, jeopardizing the warfighter's mission-critical communications.

Previous approaches to this problem were either standalone SCPS implementations, such as SkipWare® by Global Protocols, or WAN optimization solutions such as Riverbed® Steelhead® appliances. While WAN optimization solutions offer significant performance improvements for satellite WANs, many solutions are not SCPS compliant and therefore lack the degree of interoperability desired by some military customers. Similarly, standalone SCPS implementations offer interoperability and a standards-based approach, but are limited in their acceleration capabilities.

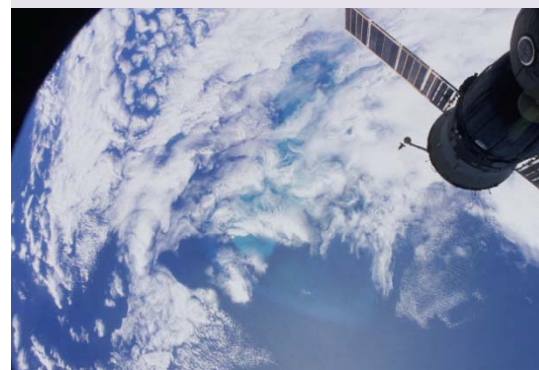
Together, Riverbed and SkipWare offer military customers the best of both worlds: the market leading acceleration capabilities of Steelhead appliances alongside best-of-breed SCPS functionality from SkipWare. Military customers deploying the combined solution can now achieve greater performance benefits across their satellite wide area network (WAN) while maintaining SCPS interoperability.

### Example Steelhead and SkipWare Deployment:



Riverbed and Global Protocols offer a complete solution for military satellite networks. The combined solution of SkipWare and Steelhead appliances is fully interoperable with multiple network environments, including other SCPS implementations.

## Solution Overview



### Overview:

Riverbed® Technology and Global Protocols, Inc. offer military customers the best of both worlds to accelerate mission critical applications: the market leading acceleration capabilities of Steelhead® appliances alongside best-of-breed SCPS functionality of SkipWare. Military customers deploying the combined solution can now achieve greater application performance benefits across their satellite WAN while maintaining SCPS interoperability. Specifically, the combined solution enables military organizations to:

- Accelerate applications over a satellite WAN, anywhere from 5x to 50x, and up to 100x in some cases, ensuring that warfighters have timely access to mission critical information
- Reduce bandwidth usage by 60-95% by removing redundant data from the WAN
- Optimize connectivity with any SkipWare-based military network
- Maintain full interoperability with any other SCPS-based network



## Solution Overview

### SCPS-TP

The Space Communication Protocol Standards-Transport Protocol (SCPS – TP) is a TCP variant intended for high-delay, high-loss environments. It is specified as a standard for most tactical satellite programs in the US DoD and is the standard in DISA service provision facilities. Well-designed SCPS implementations such as SkipWare from Global Protocols, Inc. not only deliver a high level of performance, but also employ open-source standards that ensure a high degree of interoperability across diverse military networks. As inter-service networking and joint military operations become increasingly common, interoperability and standards compliance have become crucial elements of military communications. SCPS serves as the common acceleration technology that establishes optimized connectivity over these otherwise disparate networks.

**LTI DataComm**  
23020 Eaglewood Ct. #100  
Sterling, VA 20166  
[www.ltidata.com](http://www.ltidata.com)  
800-677-5050

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### SkipWare by Global Protocols

SkipWare, by Global Protocols, Inc., is the protocol solution military organizations throughout the US DoD rely on to overcome the challenges associated with satellite WANs and deliver a reliable satcom connection to the battlespace, regardless of the operating conditions. Now available on Riverbed Steelhead appliances, SkipWare has become the most broadly deployed SCPS implementation in the DoD market. A standard in DISA satellite facilities and most major military tactical networks, SkipWare combines high-performance with standards-compliance and interoperability for thousands of warfighters deployed in theater. SkipWare strictly adheres to the Space Communication Protocol Standards specification and is fully compliant with Mil-Std-2045-44000, making it eligible for any military program with a SCPS requirement.

SkipWare was chosen for the Steelhead product line for its unmatched military credentials and expansive DoD install base. Optimized to operate with the DoD's most common transmission technologies, SkipWare consistently outperforms competing SCPS implementations in independent testing both in straight throughput, and in its high degree of interoperability. SkipWare is the acceleration of choice for the DISA Standardized Tactical Entry Point (STEP) system and Teleport sites, and has been selected to power the US Army and US Marine Corps' largest tactical networks.

### Riverbed Steelhead Appliances

Riverbed Steelhead appliances deliver the best performance improvements across the broadest range of applications. The Riverbed approach accelerates all TCP-based applications across a range of environments, including high-latency satellite networks. Many military customers have used Steelhead appliances to accelerate applications over their satellite WAN, ensuring that users in the field have access to critical information. Riverbed Steelhead appliances use a three pronged approach that goes beyond just TCP acceleration: 1) data streamlining, which removes 65–95% of redundant data from the WAN; 2) transport streamlining, which addresses TCP chattiness and latency; and 3) application streamlining, which addresses chattiness and latency in the applications themselves. The combined effect of this technology is that WAN bandwidth use is reduced 65–95%, and applications are accelerated over the WAN from five to 50x, even up to 100x in some cases.

### Joint Solution: SkipWare on Steelhead Appliances

With the integration of SkipWare into the Riverbed product line, users can now achieve comprehensive, cross-layer optimization without sacrificing standards compliance or interoperability, seamlessly linking multiple vendor technologies across different military satcom networks. With SkipWare, Steelhead appliances boast optimized connectivity to the STEP and Teleport systems, optimized connectivity with any SkipWare-based military network, and full interoperability with any other SCPS-based network.

SkipWare is delivered as a package on the Riverbed Services Platform (RSP). The RSP is a protected partition on Steelhead appliances on which customers can run third party services and applications. The combined solution delivers hybrid functionality, allowing customers to use either Riverbed optimization technology, SkipWare for SCPS -TP, or both as required. This enables military customers a greater degree of flexibility in how they deploy Riverbed appliances, as SCPS is the standard for many inter-agency networks. In addition, the solution delivers powerful functionality in one box, eliminating the need for multiple in-line appliances in the field and the need to engage multiple support channels for troubleshooting.