

## TESTIMONIAL

# Satellite Broadband Provider Optimizes Bandwidth & Improves Performance

# HUGHES®



Hughes Network Systems, LLC (Hughes) is the world's leading provider of satellite broadband for home and office, delivering innovative network technologies, managed services, and solutions for consumers, enterprises and governments. Its HughesNet® high-speed satellite Internet service is #1 in the marketplace, with over 620,000 consumer and small business subscribers in North America.



Hughes owns and operates service businesses in the United States, Europe, India, Brazil and China, providing continent-wide broadband satellite connectivity and fully managed solutions to customers in virtually every vertical sector, and has a global technology footprint of >1 million broadband sites in 100+ countries, operating on 20+ satellites. Hughes supplies its growing family of authorized service providers with advanced HN and HX broadband systems, terminals and turnkey solutions for professional and rapid deployment worldwide, enabling delivery of a wide variety of applications – from high-speed Internet/intranet access, to video conferencing, distance learning and VoIP voice services.

Since inventing commercial VSATs in the mid-80s, Hughes has continually advanced the state-of-the-art with its leading-edge satellite networking systems, routers and modems. In particular, acceleration and compression technologies are embedded in virtually every Hughes satellite network offering, which dramatically improves throughput and response time by mitigating delay, and for which it has been awarded several patents. In order to enhance the latest generation of its WAN optimization solutions, Hughes faced several challenges:

- Reduce outbound web (HTTP) traffic and improve the user experience
- Minimize satellite operating expenses (OPEX)
- Offer a caching solution with low recurring licensing costs

After a thorough technology, performance testing and total cost of ownership analysis, Hughes selected Comtech EF Data and its Stampede FX Series WAN Optimization offering to be integrated with its customer solution.



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## WAN Optimization

The Stampede FX Series combines both application delivery controller (HTTP outbound optimization) and WAN optimization controller (TCP bi-directional optimization) capabilities. The FX Series manages application interactions and applies coordinated acceleration and optimization techniques within satellite networks.

Traditional WAN optimization solutions require hardware at both ends of the network, which can be difficult to deploy and financially unfeasible. The Stampede FX Series combines one-sided application delivery and two-sided WAN optimization into a single platform with the added flexibility of unparalleled remote side WAN optimization options.



To date, Hughes has deployed the one-sided solution, the FX Series ADC (Application Delivery Controller), for several large international networks. Transparent to end customers, the WAN optimization functionality of the FX Series is particularly beneficial to small businesses and remote school systems. By utilizing several of the FX Series ADC's key features, Hughes is reducing outbound web (HTTP) traffic by 20 – 25%, improving the user experience and reducing OPEX, including:

- **Caching**

- Hughes needed a caching solution that required less recurring licensing costs than other 3<sup>rd</sup> party solutions. After performing a 3-year cost of ownership analysis, it determined that Comtech's solution would save considerable OPEX.
- The FX Series' caching maintains copies of routinely accessed data to eliminate unnecessary requests to web and application servers. It acts as an intermediary from end users requesting content (such as a file, web page or other resource) from servers. As a result, Hughes is utilizing less bandwidth and improving network performance with the FX Series' caching functionality.



- **GZIP Compression**

- Automatically compresses data sent to standard browsers. GZIP compression removes non-essential information from data being moved from one location to another, and then the browser reassembles the data to its original form after the transfer is complete. Hughes is using GZIP compression to conserve satellite bandwidth.



- **Image Optimization & Smoothing**

- Reduces the amount of data required to represent an image without significantly altering the visual perception. Smoothing reduces the high frequency components or the sharpness of an image. A moderate amount of smoothing can significantly reduce the amount of data, while maintaining a usable image. This feature is helping Hughes improve network performance.

The bottom line is that robust Hughes acceleration and compression techniques work seamlessly in conjunction with Comtech EF Data's Stampede WAN optimization to provide exceptional performance for customer applications.

## More Information

Our WAN optimization technologies can help you address increased bandwidth requirements, rising space segment costs and capacity shortages. To learn more about how your network can benefit from our technologies, visit [www.comtechefdata.com](http://www.comtechefdata.com).



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