Advanced VSAT Solutions

Facilitating Premium Enterprise Services

The Advanced VSAT Solutions is a portfolio of high-performance, satellite-based communication solutions that facilitate premium services for the enterprise – energy, mining, maritime, airline and corporate networks. Representing the next generation in satellite networking equipment, the Advanced VSAT comprises a bundle of products and advanced technologies developed by the various engineering groups within Comtech EF Data and our subsidiary, Memotec.

We are recognized in the industry for our market-leading modems and bits/Hz performance. The Advanced VSAT takes performance to the next level. It puts the intelligence in the horsepower machine that is a Comtech EF Data modem. Is it TDMA? Is it SCPC? It is dynamic bandwidth allocation.

Throughput + Service Quality

Today, end users require astounding levels of additional throughput to support mission-critical applications. The majority of this increased demand originates in the inbound direction given the valuable multimedia content that needs to be transmitted from remote sites back to central locations. It is key for satellite networking solutions to be able to handle these increasing data rates while having headroom for future growth.

Advanced VSAT is focused on throughput and service quality. It has the processing power needed to support your pps and Mbps transmission requirements for high data rate applications, high definition video and voice. It provides the service quality your users demand with low jitter and low latency so you can meet those stringent SLAs. It is also a fully managed system with the intelligence to enable dynamic allocation of bandwidth when and where it is needed.

Do you want a satellite platform that only allows you to provide contended service for the next 1-3 years? Or, do you want to provide premium services based on the Advanced VSAT platform that will enable you to expand your business and meet your users' requirements?
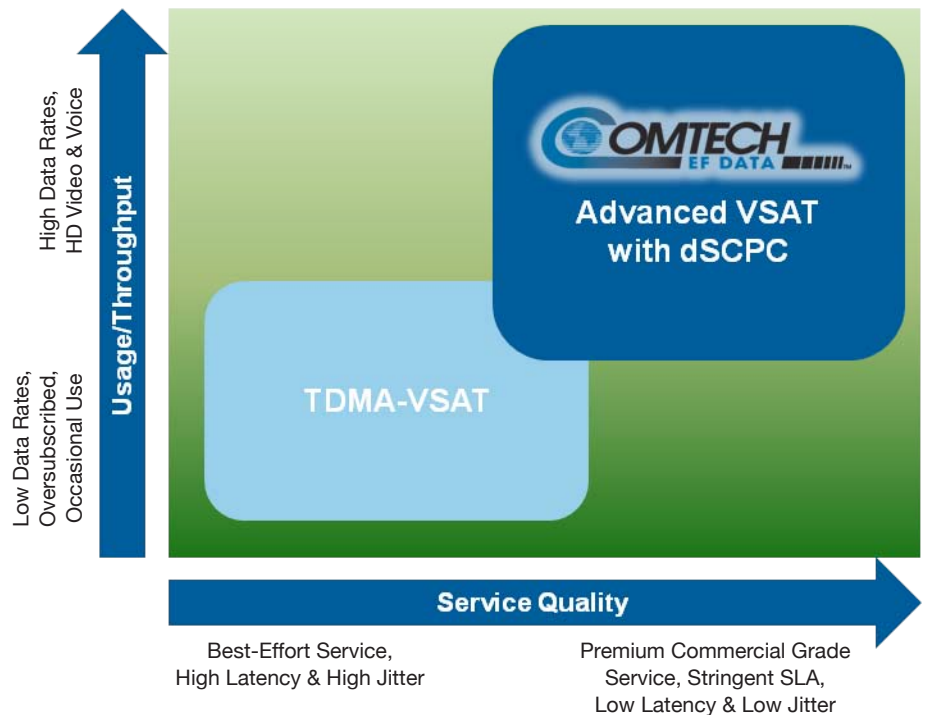
Advanced VSAT is a fully managed hub-spoke networking system that consists of hub and remote terminal components.

Hub

- Shared DVB-S2 outbound transmission with ACM/VCM
- VersaFEC® return channel reception with ACM and bandwidth on-demand
- High-performance packet processing and optimization including multi-level Quality of Service (QoS), header compression & lossless payload compression
- Integrated management system platform
- WAN optimization

Remote Terminals

- DVB-S2 outbound reception
- Return channel transmission based on VersaFEC with ACM and Dynamic Single Carrier per Channel (dSCPC) bandwidth on-demand
- High-performance packet processing and optimization including QoS, header compression and lossless payload compression
- WAN optimization

Multi-Layer Optimization

Satellite bandwidth is the largest operating expense for satellite networks. Utilizing bandwidth and power efficiencies can directly impact service provider profitability and SLAs. Multi-layer optimization is crucial for sustainable operations.

Multi-level optimization and sharing are at the core of our Advanced VSAT Solutions. Our system provides the highest spectral efficiency in its class by optimizing smart bits and unintelligent Hz. Essentially, it's a process of more intelligently processing data, driving the economics to the right point while having the right horsepower to support it. Examples of the Advanced VSAT functionality that facilitate efficient transport are:

Functionality	Benefit
dSCPC	• Enables dynamic allocation – remote terminals can share one or more bandwidth / power pools for return links
DVB-S2 and VersaFEC with ACM/VCM	• Provides maximum spectral efficiency with minimal latency • Converts available link margin for maximum throughput
Header Compression & Lossless Payload Compression	• Reduces required bandwidth and enables the most efficient transport for IP datagrams
Fully Integrated & Multi-Level QoS	• Ensures the highest service quality with minimal jitter & latency • Enables real-time & other low priority traffic to seamlessly co-exist on the same link without impacting voice quality or mission-critical data delivery
Low Overhead Streamline Encapsulation & Enhanced GSE	• Facilitates link layer efficiency
Global Roaming	• Allows remote terminals on-board mobile platforms to seamlessly transition between satellite beams or hub coverage with minimal service interruption
WAN Optimization	• Reduces amount of data that traverses the link and gets data to users faster

Service Differentiation
Energy, Mining, Maritime & Corporate Networks

The Advanced VSAT platform will allow you to dynamically assign bandwidth network-wide to meet the ever-increasing demands of your business. It has the intelligence and underlying resiliency to meet stringent jitter and latency requirements of your most crucial applications. It provides the highest bandwidth efficiencies and processing power to support your most bandwidth-rich applications. It can also remotely modify bandwidth allocations as requirements change tomorrow...without requiring costly upgrades or site visits. With the addition of our premium service, ESS Prime, we also provide 24x7 engineering support and other technical services to support your integrated network infrastructure.

More Information

In a world of "me-too" offerings, differentiation comes from challenging convention and partnering with a satellite platform provider that enables you to defy the norm. Contact us today – We'll help you carve out service differentiation based on the right mix of platform and support…before, during and after the network implementation.

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