Solution Brochure

Energy

Reliable Communications for Mission-Critical Operations



Benefits

- Provides rigs, platforms, vessels, pipelines and offices with reliable, high-speed communications
- Enables advanced broadband IoT
- Optimally addresses dynamic network changes
- Cloud-based unified management
- Uncompromised scalability and security
- Robust Bi-Directional Quality of Service (QoS)
- L3 and L2 support

Harnessing the Power of SATCOM

Satellite communications play a crucial role in supporting the operations of Energy companies. With the help of satellite technology, Energy companies can establish reliable and efficient communication networks, ensuring seamless connectivity in remote and challenging environments. Whether it's offshore oil and gas platforms, remote renewable energy installations, or pipeline/metering networks spanning thousands of miles, satellite communications provide a robust and resilient solution.

By utilizing satellite communications to support high-speed enterprise broadband Internet services, such as Internet of Things (IoT) solutions, Energy companies can monitor and control their infrastructure in real-time, enabling efficient resource management, proactive maintenance and emergency response. Satellite connectivity facilitates data transmission, allowing companies to collect critical information from remote sites, such as environmental conditions, production levels, and equipment status. This data enables informed decision-making, enhances operational efficiency, and improves safety measures.

IoT for Energy Companies

IoT utilizes specific sensors, protocols, networking equipment, programs, and applications to retrieve, transfer and analyze data to obtain value-generating information. IoT is crucial for Energy companies for several key reasons:

Operational Efficiency: Collecting real-time operational data allows Energy companies to optimize their processes, identify inefficiencies, and make data-driven decisions to enhance operational efficiency.

Cost Reduction: IoT enables Energy companies to monitor and control their energy usage more effectively, identifying energy wastage, implementing energy-saving measures, and optimizing energy consumption.

Predictive Maintenance: Sensors installed on equipment can continuously monitor their performance, enabling predictive maintenance and detection of potential issues before they escalate into costly failures.

Grid Management and Optimization: IoT devices and sensors can monitor grid performance in real-time, detect faults or outages, and balance load efficiently.

Safety and Security: IoT sensors can detect gas leaks, abnormal temperatures, or hazardous conditions, triggering immediate alerts and automated responses.

Built for the Elastix Era

SkyEdge IV is Gilat's next-generation multi-service platform built with our new, advanced Elastix-Architecture. SkyEdge IV's single platform for multi-orbit operation enables deployment on GEO Very High Throughput Satellites (VHTS) as well as Non-GEO Stationary (NGSO) constellations and operates a single and unified multi-orbit network. The SkyEdge IV platform has a broad portfolio of VSATs supporting applications from IoT to very high trunk links reaching hundreds of megabits per second.

SkyEdge IV is a highly elastic platform that enables, together with Software-Defined Satellites (SDS), the creation of programmable Software-Defined Networks (SDN) that support on-the-fly changes to optimally address dynamic network changes.

The Elastix-Architecture is a cloud-based distributed architecture, enabling the ability to split between transmission functions located in the gateway and data processing SW-based functions which can be flexibly deployed on cloud servers located anywhere in the network. The advanced architecture provides enhanced support for applications critical to the energy industry.

Fixed and mobility applications are supported as well, with on-the-pause and on-the-move terminals to address land, sea and air needs, all managed by Gilat's global and centralized network management system, Elastix-TotalNMS.

The platform's superior technology provides the ultimate in network connectivity, scalability, security and availability to effectively monitor Energy company assets.

Advanced Service Assurance

To ensure fast running of applications, web browsing and a high-quality user experience, Gilat's platform employs advanced features and capabilities. In addition, Robust Bi-Directional Quality of Service (QoS) supports various rate bundles per site and VoIP call admission control to ensure voice and video quality.

Each application gets the appropriate resources to perform as required to support applications as variable as offshore communications and IoT while providing appropriate service levels for each.

Maximum Spectral Efficiency

Gilat's innovative transmission technologies deliver exceptional performance and space segment efficiencies. Adaptive transmission in the return direction enables high on-the-move service availability and maximum bandwidth efficiency at any condition – at beam peak, beam edge, fade and different traffic demands. This is achieved by adaptive power control and changes to the carrier symbol rate and ModCod on a per-time-slot basis. For Enterprise operations, including Energy companies, with L3 and L2 support SkyEdge IV provides comprehensive IP and routing capabilities and other Enterprise related features.

Summary

The complex nature of energy operations magnifies the need for highly reliable and efficient communications. As energy exploration, production and transport activities often take place in offshore, remote or underserved areas, dependable communications are imperative to ensure business continuity, safety and environmental responsibility.

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