OIL & GAS

Satcom for Oil and Gas, on Land and Offshore

Oil and Gas companies rely on dependable, high speed communications to support their mission critical operations, both at sea and on land. In addition, this infrastructure must also support crew welfare, enabling workers to access their preferred Internet services and stay in touch with family and friends.

Satellite plays an important role in these remote environments, both as the primary communications link and as independent back-up for sites which can be served by terrestrial connectivity.

While most IT departments are under pressure to control costs, the demand for bandwidth continues to grow, driven by Internet, voice and HD video for corporate and crew welfare applications. Managing congestion by prioritizing critical traffic, while controlling latency and jitter, is also a challenge.

ST Engineering iDirect addresses these challenges with a unique combination of Satcom technologies that maximize availability, efficiency and flexibility. Our platforms have a scalability that caters for all requirements, from a few sites on a traditional satellite beam to global networks serving thousands of sites across different beams and/or satellites. The same platform can support a wide range of use cases, including exploration and production, offshore oil rigs, vessels, and even large-scale low data rate M2M/SCADA connectivity for pipelines and points-of-sales. Reliable and high throughput satellite communications for remote locations, supporting voice data and video.

🎇 ST Engineering

DIALOG powered by Newtec < iDirect

Double Throughput at Maximum Service Availability

Innovative satellite technologies pioneered and developed by ST Engineering iDirect such as DVB-S2 and DVB-S2X, Mx-DMA®, FlexACM®, Clean Channel Technology® and Cross-Layer- Optimization deliver the highest availability and bandwidth efficiency, over C-, Ku- and Ka-band as well as HTS satellites.

Return Link Technology Disruption with Mx-DMA

While there has been significant focus on optimizing the forward satellite channel, the return channel has been largely overlooked. For a long time, the industry had to choose between SCPC and TDMA technology. SCPC provides high throughput and efficiency, but requires dedicated satellite bandwidth per site. TDMA allows bandwidth to be shared between the sites but requires compromises in throughput and bandwidth efficiency.

Our unique and patented Mx-DMA return link technology combines the benefits of SCPC and MF-TDMA, without the downsides. With High Resolution Coding (HRCTM) and modulation, supporting 75 Mbps of throughput using 40 MODCODs up-to 32APSK, brings SCPC like speeds and efficiencies, while Mx-DMA delivers real time on-demand bandwidth sharing across sites without compromising the quality of service or service availability. Mx-DMA is integrated with Quality of Service (QoS) and works seamlessly, without packet loss, jitter or latency. Typical bandwidth savings of Mx-DMA technology compared to SCPC and MF-TDMA are on the order of 50%. In other words, Mx-DMA doubles the throughput capability in the same satellite capacity, without compromising performance or availability.

Maximum Service Availability and QoS

Even in harsh and hostile conditions (rain fading, interference, etc.) communication links over satellite remain available at all times thanks to auto-adaptive modulation technology, FlexACM that can be found in our modems and hubs.

Moreover, service priorities (e.g. video, data, voice) and QoS policies can be auto-adapted on-the-fly depending on the bandwidth availability through our Cross-Layer- Optimization technology.



Figure 1: The integration of technologies like FlexACM with Cross-Layer Optimization assures the required QoS and maximal service availability.

A Multiservice Platform for Land, Offshore and M2M/SCADA

Our Dialog® Multiservice Platform

The Dialog platform is a scalable and flexible multiservice satellite platform which allows operators to build and adapt their infrastructure easily as their business evolves. Dialog secures the future of operators, giving them the power to offer a variety of services while making hassle-free decisions on which technology to use.

Bandwidth efficiency is assured using the most optimal modulation and bandwidth allocation for any given service offering. The Dialog platform supports DVB-S2X ACM transmission from hub to terminals, including our Clean Channel Technology with 5% roll-off. As well as containing the revolutionary Mx-DMA technology, the platform also supports SCPC and MF-TDMA return links.

The platform contains an advanced network management system for configuration, monitoring and supports private networking combined with advanced QoS.

Bandwidth on Demand Services

Our Dialog platform is also ideally suited to deliver Bandwidth on Demand services to end customers. Using the optional SATLink Manager, bookings and reservations of on demand services can be scheduled. At the right time, SATLink Manager can automatically make the desired service level configuration changes, including CIRs (Committed Information Rate) and PIRs (Peak Information Rate). By leveraging the seamless nature of Mx-DMA return link technology the bandwidth for any remote location can be changed instantly, without impacting any site in the network. In addition, service profiles can also be managed manually using the NMS GUI, or alternatively using the open API built-in to the Dialog platform, allowing operators to integrate with their own back-end system.

Reliable and Efficient Datacasting

Our Multicasting Software and File Exchange Manager enable customers to push content from the hub towards the remote sites, offshore rigs and vessels. By leveraging the broadcast capability of satellites, this reliable datacasting model will immediately result in significant efficiency and OPEX gains.



Figure 2: The Dialog platform can provide reliable and high throughput satellite connectivity to land and offshore operations. Technologies, like Mx-DMA return link, deliver significantly more throughput in the same satellite bandwidth.

