

# CET Teleport Launches iDirect Evolution DVB-S2/ACM Network Using T11N Over Africa

## Overview of the DVB-S2 Technology

DVB-S2 uses the industry's leading forward error coding technology, Low-Density Parity-check Codes (LDPC) coupled with BCH coding. This concatenated LDPC-BCH coding scheme provides performance very close to the theoretical Shannon limit resulting in a 30-40 percent bandwidth efficiency increase over existing DVB-S systems.

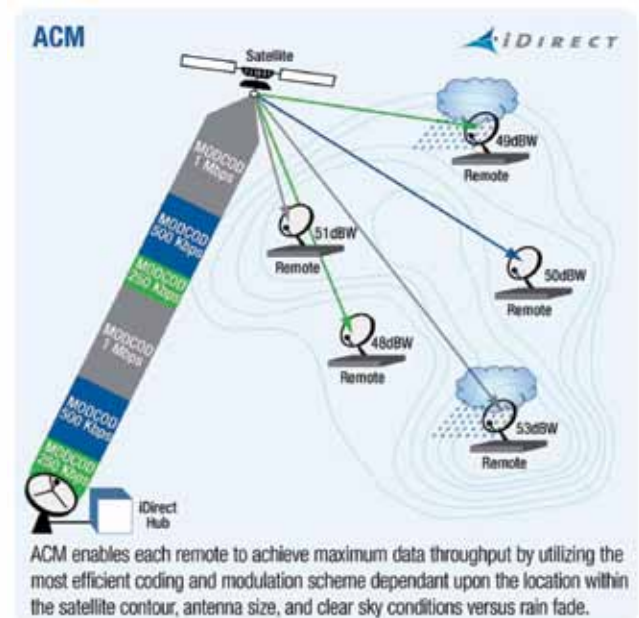
Although all VSAT operators using DVB-S2 will benefit from the coding gains provided by LDPC and BCH, there is still a wide range of efficiency between different vendors' DVB-S2 system implementations. Most system implementers continue to deploy DVB-S2 systems using the "broadcast" profile of DVB-S2, which is far from optimal for interactive VSAT systems. iDirect, on the other hand, has tuned every aspect of its DVB-S2 implementation for the efficient delivery of IP data across satellite networks, while still remaining 100 percent compliant with the DVB-S2 specification.

Data packets in iDirect's Evolution platform are carried using an efficient encapsulation scheme based on the new "Generic Streams" mode of DVB-S2. In contrast to inefficient encapsulation schemes such as Multi-Protocol Encapsulation (MPE) over MPEG-2 Transport Streams, iDirect's encapsulation scheme allows for variable length IP packets to be efficiently packed into DVB-S2 frames.

The DVB-S2 standard also incorporates new modulation and FEC schemes, supporting QPSK, 8PSK and 16APSK modulations on the DVB-S2 downstream and enabling different coding and modulation schemes, including both Constant Coding and Modulation (CCM), and Adaptive Coding and Modulation (ACM). iDirect's ACM uses an adaptive, dynamic algorithm that changes the demodulation scheme and the error protection level as often as each data frame, representing a major improvement over CCM.

## What is ACM

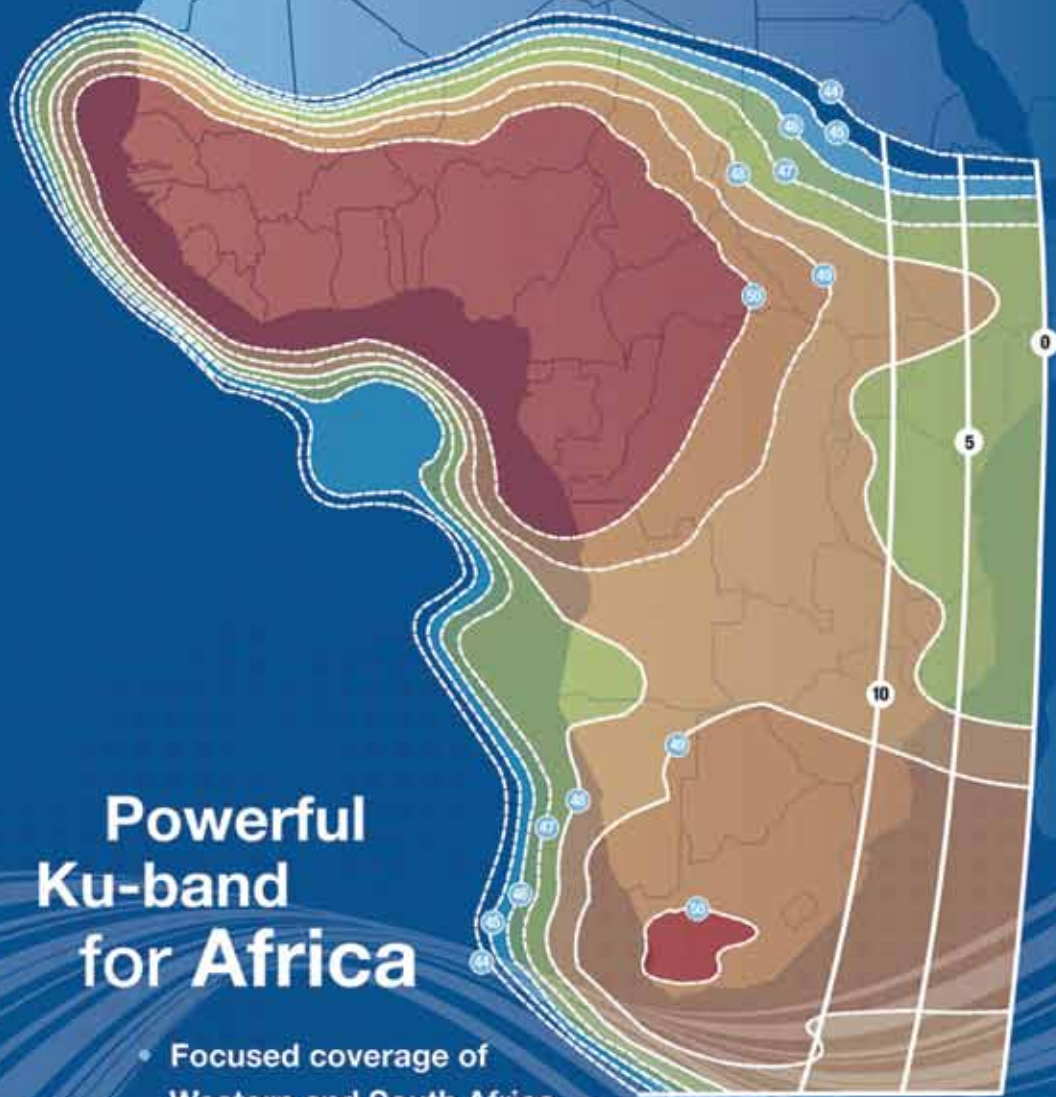
iDirect's Adaptive Coding and Modulation (ACM) enables each remote to operate at its most efficient coding and modulation scheme, at any moment in time, depending on location within the satellite contour, antenna size, and atmospheric conditions. iDirect's implementation of ACM evaluates current channel conditions and throughput requirements through a return channel to determine the ideal modulation and FEC rate for each individual DVB-S2 frame and makes adjustments in real time. ACM not only optimizes the bandwidth efficiency for maximum throughput on a remote-by-remote basis, it also avoids network operators having to determine in advance which modulation and coding should be used. Network design couldn't be made any easier or closer to reality. In order to ensure uninterrupted service, even in regions prone to deep and sudden rain fade, with ACM the links will automatically adjust for the size of each antenna within different parts of the footprint, localizing the impact of edge-of-footprint remotes.



# Telstar 11N

37.5° W

Ku-Band  
Footprint



## Powerful Ku-band for Africa

- Focused coverage of Western and South Africa
- Offering coverage within Africa and connectivity to Europe and North America