Overview

Comtech EF Data's Advanced VSAT Solutions portfolio provides high-performance satellite-based communication solutions for a diverse range of applications, including broadband maritime, offshore communications, mobile backhaul with RAN optimization, IP trunking and backhaul, corporate and enterprise networks, emergency and disaster recovery.
Incorporating advanced technologies developed by Comtech EF Data, AHA Products Group, Memotec and Stampede, the solutions provide unmatched performance, industry-leading bandwidth efficiencies and network optimization – while minimizing Total Cost of Ownership.

CTOG-250-EN is designed to work with the CDM-800-EN Gateway Router and provides high-performance packet processing and traffic optimization functions for the shared high-speed DVB-S2 outbound. It also includes the ACM/VCM controller.

Based on a carrier grade server platform, with dual multi-core processors, CTOG-250-EN is designed to offload packet processing from the CDM-800-EN for networks requiring higher throughput. CTOG-250-EN processes the incoming IP datagrams and packages them into DVB-S2 baseband frames for transmission to CDM-800-EN via Gigabit Ethernet interface.

Typical Users

- Offshore & Maritime
- Mobile Operators
- Enterprise
- Internet Service Providers (ISPs)

Common Applications

- Maritime & Offshore Communications
- IP Trunking & Internet Access
- Mobile Backhaul with RAN Optimization

Features

- High-performance packet processing
- Layer 2 (Bridged Point to Multipoint - BPM) or Layer 3 (Routed) operation
- Jumbo frame support
- VLAN support in BPM mode
- Outbound ACM/VCM Controller
- Group Quality of Service
- Lossless Payload compression
- Header compression, including Layer 2 headers in BPM mode
- Low overhead encapsulation
- Up to 160 Mbps / 62 Msps
- Integrated with NetVue Integrated Management System and Vipersat Management System
- Redundancy options

Outbound Adaptive Coding & Modulation (ACM)

ACM allows each remote in a shared outbound to achieve maximum efficiency and throughput by operating at the best modulation and code rate (MODCOD) subject to current conditions. Each remote reports the current receive conditions to the ACM controller at the Hub, which adjusts the MODCOD for traffic destined to that remote. The ACM controller selects the MODCOD on a frame by frame basis to optimize efficiency and availability.

Without ACM the shared outbound would have to be dimensioned for the most disadvantaged remote leading to significantly inefficient operation. ACM maximizes network efficiency and throughput under all conditions – be it location disadvantage, rain fade, inclined orbit operation, interference or other impairments.
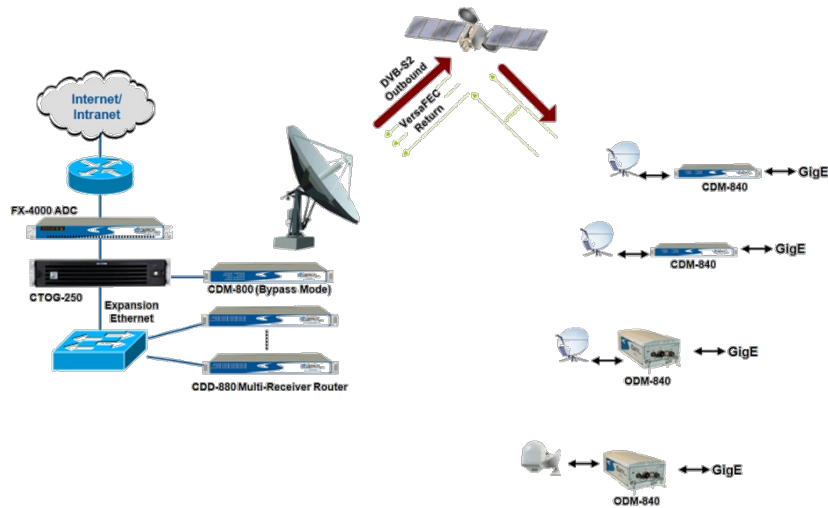
Comtech EF Data's ACM controller also includes dynamic remote route discovery which simplifies hub configuration by automatically discovering remote routes and adding them to the ACM controller.

Specifications

Packet Processing

Header compression	IP, IP/UDP, IP/UDP/RTP, TCP/IP
Payload compression	Lossless Payload Compression (GZIP)
Encapsulation	Low Overhead Enhanced GSE
Supported Protocols	

RFC 768 – UDP	RFC 1812 – IPv4 Routers
RFC 791 – IP	RFC 2045 – MIME
RFC 792 – ICMP	RFC 2474 – Diffserv
RFC 793 – TCP	RFC 2475 – Diffserv
RFC 826 – ARP	RFC 2578 – SMI
RFC 856 – Telnet	RFC 2597 – AF PHB
RFC 862 – Ping	RFC 2598 – Expedite Forwarding
RFC 894 – IP	RFC 2616 – HTTP
RFC 959 – FTP	RFC 3412 – SNMP
RFC 1112 – IP Multicast	RFC 3416 – SNMPv2
RFC 1213 – SNMP MIB II	RFC 3418 – SNMP MIB
Statistics	Detailed packet and throughput stats

ACM/VCM Controller with Group QoS

DVB-S2 Frame	Normal Frame Short Frame
Number of Groups	256
Rules per Group	32
Subnets per Group	128
Supported MODCODs			

QPSK 1/4	QPSK 2/3	8PSK 2/3	16APSK 9/10
QPSK 1/3	QPSK 3/4	8PSK 3/4	32APSK 3/4
QPSK 2/5	QPSK 4/5	16APSK 2/3	32APSK 4/5
QPSK 1/2	QPSK 5/6	16APSK 3/4	32APSK 5/6
QPSK 3/5	8PSK 3/5	16APSK 5/6	32APSK 9/10

Connectors

LAN Traffic 10/100/1000Base-T Ethernet interface (IEEE 802.3ab)	2 x RJ-45
WAN Traffic 10/100/1000Base-T Ethernet interface (IEEE 802.3ab)	1 x RJ-45
Expansion Traffic 10/100/1000Base-T Ethernet interface (IEEE 802.3ab)	2 x RJ-45
Management 10/100/1000Base-T Ethernet interface (IEEE 802.3ab)	1 x RJ-45
Serial Port	9-pin D-sub (male)

Physical, Power & Environmental – AC Version

Dimensions (2RU) (height x width x depth)	3.5" x 17.2" x 25.5" (8.9 x 43.7 x 64.8 cm) approximate
Weight	52 lbs (23.6 kg) approximate
Power Supply	740 W high-efficiency power supply
AC Input	100-240 VAC, 50-60 Hz
Temperature – Operating	10° to 35°C
Temperature – Storage	–40° to 70°C
Cooling System	3 x 8 cm PWM cooling fans
Humidity – Operating	8 – 90%, non-condensing
Humidity – Storage	5 – 95%, non-condensing

CTOG-250-EN Back Panel