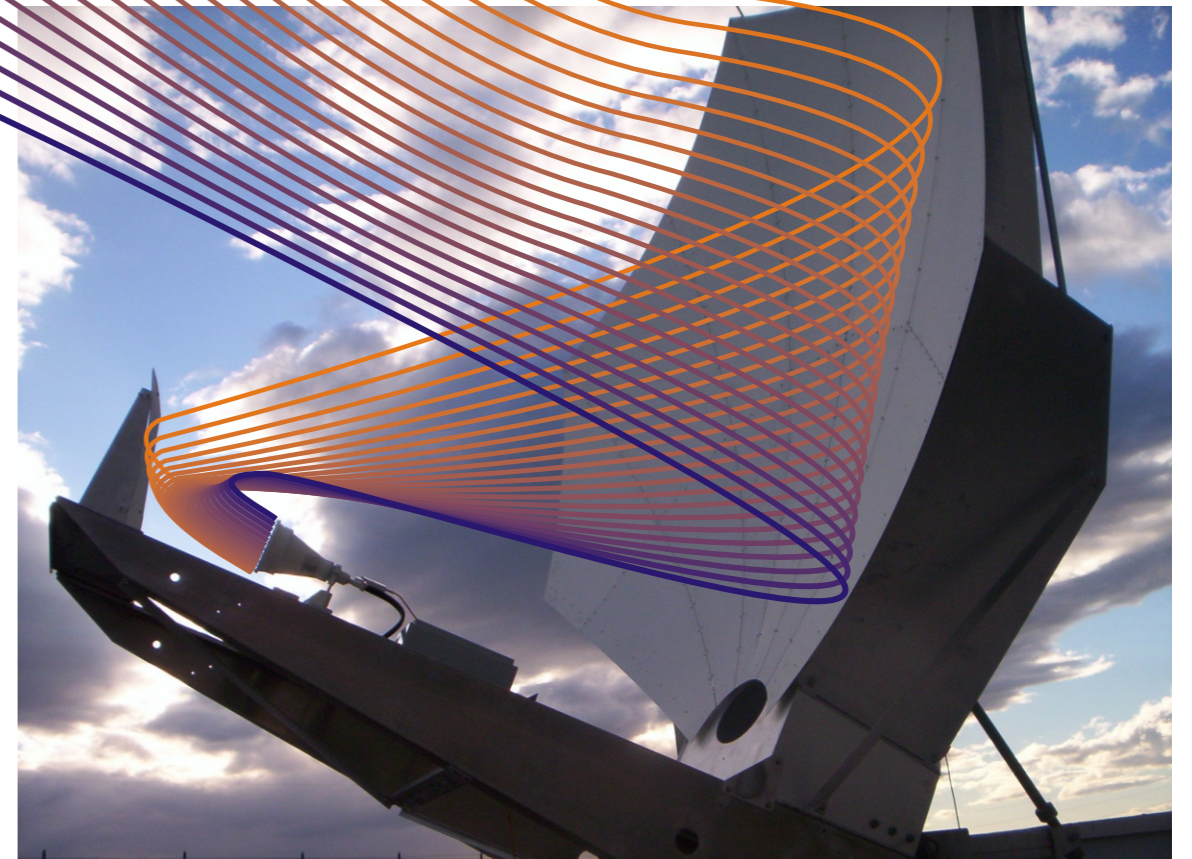# MAINDATA

satellite internet platform

selected references:

- **World Bank I.B.R.D.,** Washington, USA
- **P.T. CSM**, Jakarta, Indonesia
- **PDMC**, Taipei, Taiwan
- **Katelco**, Almaty, Kazakhstan
- **Telconsult**, Tendring, UK
- **ISAT**, Florida, USA
- **HCL Comnet**, Noida, India
- **One2Net**, Kampala, Uganda
- **Horizon Satellite Services**, Dubai, UAE
- **Gulfsat**, Sharq, Kuwait
- **Al-Sabah**, Sharq, Kuwait
- **Synergistics Communication**, Florida, USA
- **Telenor Slovakia**, Bratislava, Slovakia
- **Sony**, Trnava, Slovakia

- **Wifi Networks**, Noida, India
- **Samsung**, Sered, Slovakia
- **Satcoinx**, Barcelona, Spain
- **Ratioconsulta**, Milan, Italy
- **Eurotel**, Milan, Italy
- **Tatanet**, Noida, India
- **ASUS**, Ostrava, Czech republic
- **SVS Telecom**, Istanbul,Turkey
- **Digital Group** / Teleskies, Lybia
- **ICCES**, AlKhobar, Saudi Arabia
- **Canal 10**, Montevideo, Uruguay
- **Al-Haheer**, Sharq, Kuwait
- **Archway**, Milano, Italy
- **IEC,** Bangkok, Thailand
- **Orange**, Bratislava, Slovakia
- **Foxconn**, Nitra, Slovakia

MAINDATA

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SATELLITE INTERNET platform

MAINDATA has been provider of Satellite Internet platforms since 1998 (established 1996). MAINDATA provides complex platform consisting from core equipments such as IPE with QoS, broadcast network management system (BNMS), HYBRID-NET ®, Antispoofer, PUSH e-mail, Statistics & Billing, Fair usage policy and satellite network monitoring system.
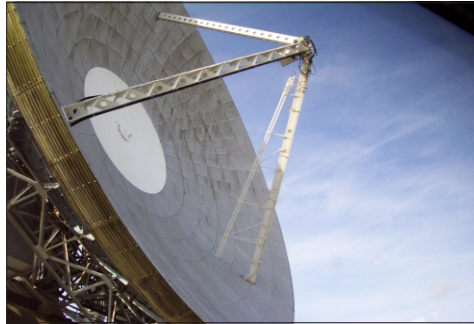
MD IPE - is a crucial satellite internet platform equipment encapsulating IP packets into MPEG TS or GS packets. MD IPE supports multilevel QoS, with low MPE overhead, quick browsing. MD IPE proved to be very stable with no downtime for several years of operation. MD IPE supports speeds up to 200 Mbps being used at several satellite internet up-links in Germany, UK, USA etc. MD IPE generates usage statistics to MRTG, Statistics & Billing module and or Satellite network monitoring system. MD IPE also supports data rate control with TCP/IP accelerator and MEDIACAST platform. RMC a JAVA based client provides live MD IPE traffic monitoring with in depth data.

BNMS - consists of IPEs manager, WEB UI for service provisioning and database for configuration storage. BNMS allows admin to allocate resources to resellers. Resellers login to BNMS directly and provide services directly to end-users using allocated resources (bandwidth, PIDs, IP ranges). BNMS supports fair usage policy QoS - configuring Daily quota or Absolute quota packages.

HYBRID-NET - achieves 2 way satellite internet service by combination of DVB Tx link with IP return channel Rx link like dial-up, SCPC modem, GPRS, 3G network, Wimax etc. Platform consists of HYBRID-NET GW "S" at head-end and HYBRID-NET GW "R" at receive side associated with MD IP connection manager. HYBRID-NET is IP transparent supporting all higher layer services. IP connection manager at client side automatically switches to land-lines in case of satellite outage.

Statistics & Billing - gathers subscribers data usage statistics and stores them into DB. It provides WEB interface.

PUSH e-mail - provides instant delivery of incoming e-mails via 1-way DVB Tx link.

OPTISAT S2/S receiver - professional satellite receiver integrating various client SW, such as HYBRID-NET, ACM client etc.
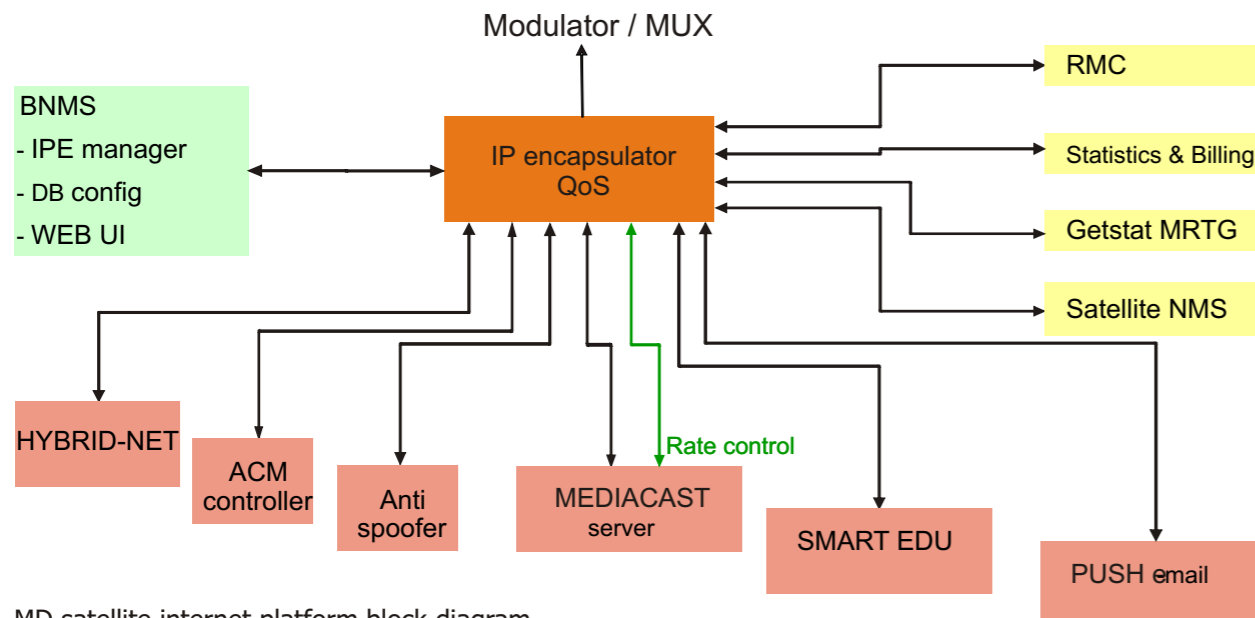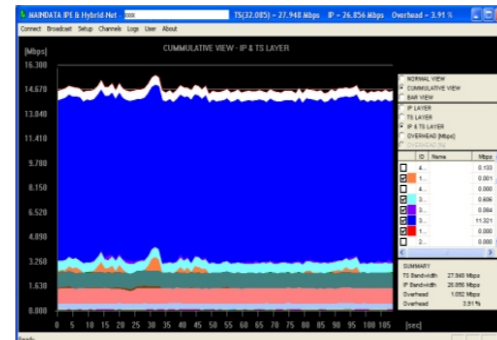
MD satellite internet platform block diagram

DVB-S2 ACM platform - with mass market satellite receivers

MAINDATA DVB-S2 ACM platform provides satellite internet operators 30 % satellite capacity savings comparing to DVB-S2 CCM platform or 50 % comparing to DVB-S.
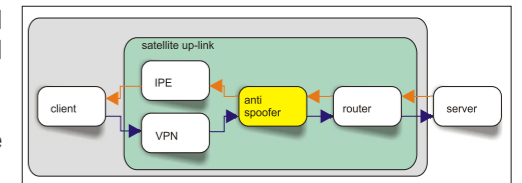
ACM Platform consists of:
ACM controller
MD IP encapsulator
DVB-S2 ACM modulator
OPTISAT S2/S ACM satellite receivers &
mass market receivers

Satellite antispoofer

Satellite internet providers face problems with unathorized use of their satellite bandwidth by spoofing IP addresses used within their satellite internet network.

This leads to lost of income and overload of the satellite bandwidth - decreasing quality of service for paying customers.

MD satellite antispoofer simply and effectively protects satellite operator against satellite capacity spoofing.

Satellite network monitoring system

Satellite network monitoring system is suited for network operating center of DVB Tx & SCPC Rx / Tx satellite links. It allows live monitoring of all links for proactive link fixes. It monitors Tx, Rx bitrates, RTT, Eb/No, link down times, packet looses for different time periods - on hour, week or monthly basis.

Monitoring data are buidling links statistics what helps service provider to react in informed way to customer claims regarding service quality. S-NMS automatically generates warning mails on pre-defined link treshold parameters.
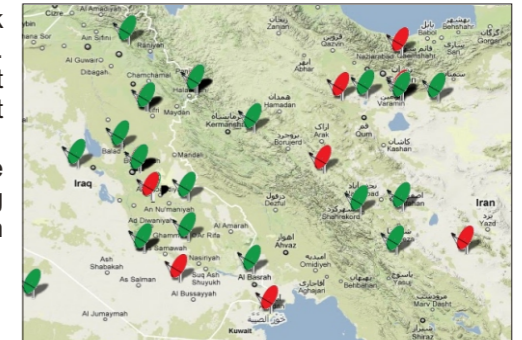
SMART EDU - eLearning platform

SMART EDU is ideal eLearning platform for satellite IP networks combining educational tools such as broadcast quality video streaming, PC screen lossless video transmission, multicast, flexible screen layout, remote screen layout controls (object position, object size, video position), remote multimedia playback synchronisation, interactive channel, discussion forum, web based test, learning management system LMS and more.

MEDIACAST & DOWNLOAD SYSTEM

MEDIACAST & DOWNLOAD SYSTEM is a second generation MAINDATA reliable file IP multicast system. IP multicast provides efficient bandwidth saving tool by supporting simultaneous transmission to unlimited number of receivers. Movies, music, games and similar content distribution via satellite successfully competes to land line infrastructure (such as xDSL, cable modems etc).

MEDIACAST & DOWNLOAD SYSTEM provides a transmission layer for reliable one-way media (files) delivery over unreliable e.g. satellite links. It uses BFTP+ (Broadcast File Transfer Protocol). It can used for movies, music distribution, digital signage projects, file sharing etc.