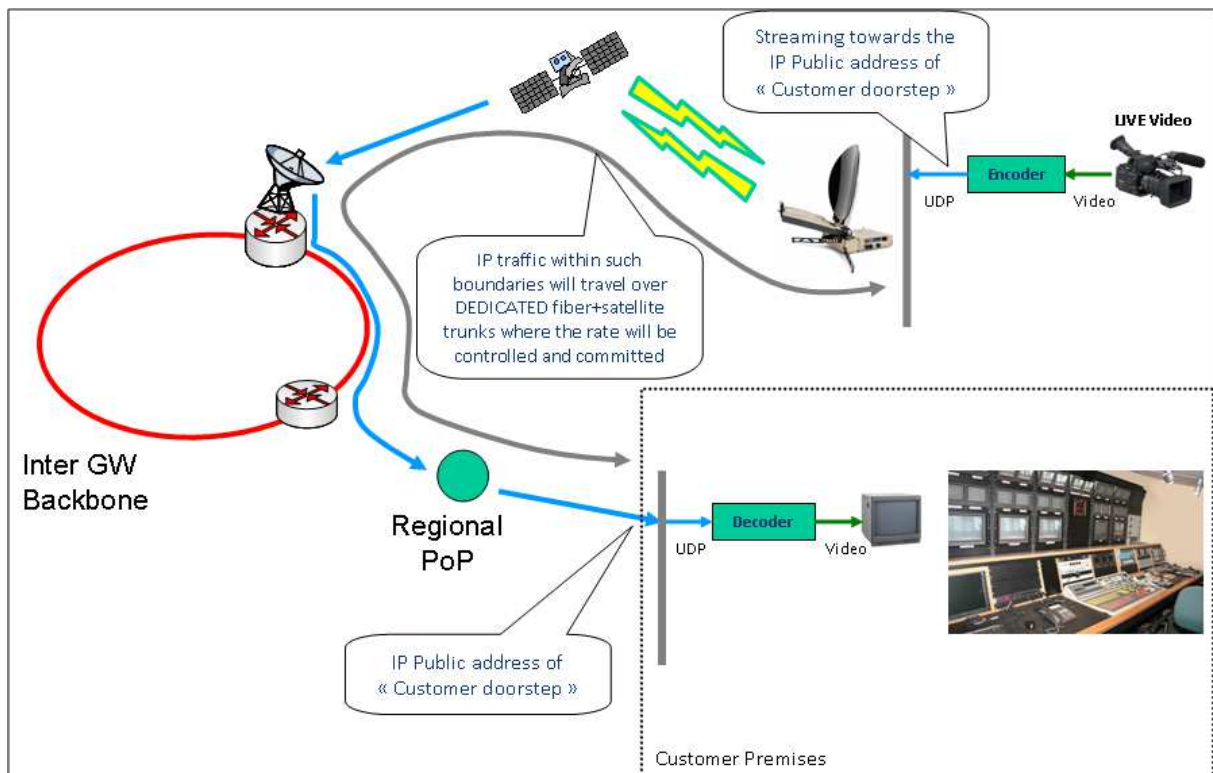


Principles of Operation of the NewsSpotter Service

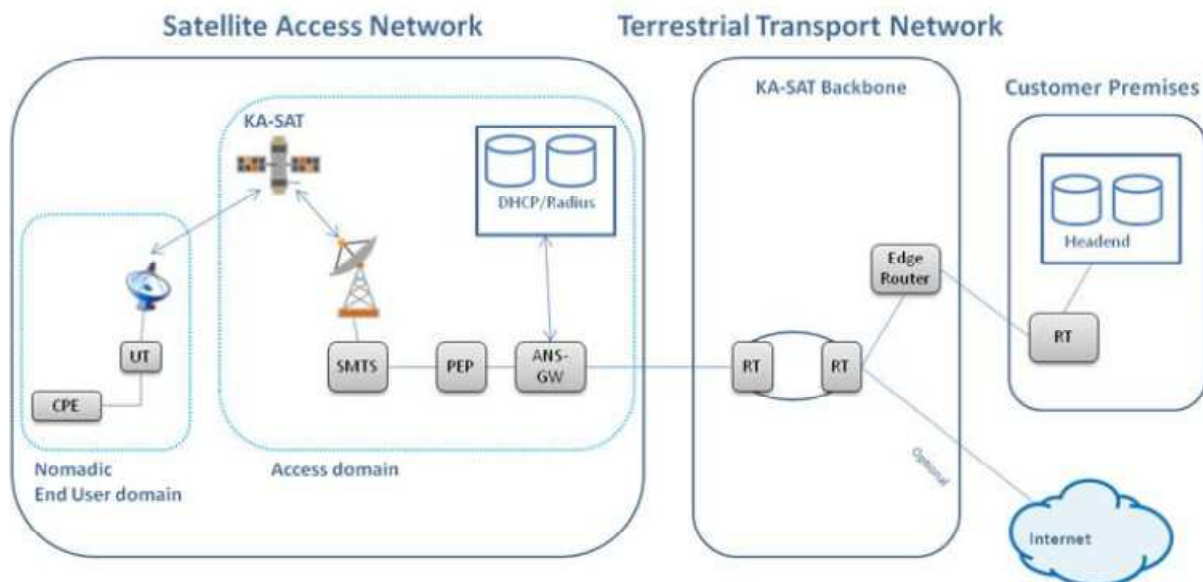
The transfer of content between the Nomadic units and the Broadcaster Premises will operate in IP using either UDP or TCP/IP Protocols. Typically, the video is encoded in real time by an MPEG encoder at the remote location (encoder not supplied by Eutelsat Broadband) capable to stream the encoded video content in a Transport Stream over IP. The encoder will stream in RTP/UDP the video content to the public IP address of the Broadcaster (“Customer doorstep”).



The service on KA-SAT satellite has two main components:

The Satellite Access Network, includes the KA-SAT Satellite, the Platform Equipment hosted by the Satellite Gateways, and the End-User residential site

The Terrestrial Transport Network, includes the network nodes located at international PoPs



Note M2sat: Bandwidth guarantees

Bandwidth on the satellite part and to the POP is guaranteed when a NewsSpotter service is booked.

Bandwidth over the public internet is provided at best efforts .

To guarantee bandwidth QoS for the end to end chain a guaranteed connection to the Ka-Sat PoP is required.

Terminal Equipment

The **User Terminal**, i.e., the ViaSat SurfBeam II modem. This modem carries all the necessary features to connect the satellite interface and layer 2 Ethernet to the End-User devices. The Indoor Unit to be used for NewsSpotter Service must be Eutelsat Broadband Approved. Eutelsat Broadband works with Viasat in order to introduce new features for Video Services and validate an end to end service quality. The list of approved IDUs is available hereafter.

Basic IDU, assembled into a consumer plastic case (not recommended to deploy nomadic services). *The Basic IDU grants a maximum of 6 Mbps in upload. Higher throughput can be achieved but cannot be guaranteed.*



The maximum bit rates that the Basic User Terminal can reach are as follows.

| Protocol | Download | Upload |
|----------|----------|--------|
| TCP/IP | 10 Mbps | 5 Mbps |
| UDP | 30 Mbps | 5 Mbps |

TABLE 1 – BASIC USER TERMINAL - MAXIMUM BIT RATE

Advanced IDU, assembled into a metallic professional case and more powerful than the Basic IDU.



Maximum bit rates that the Advanced User Terminal can reach.

| Protocol | Download | Upload |
|----------|----------|--------|
| TCP/IP | 10 Mbps | 5 Mbps |
| UDP | 30 Mbps | 5 Mbps |

TABLE 2 –Advanced USER TERMINAL - MAXIMUM BIT RATE

It is not recommend to deploy NewsSpotter services with Basic IDU for the following reasons:

- Basic IDU is less robust (plastic cover compared to metal cover for the Advanced IDU)
- Basic IDU is less powerful
- Basic IDU has less features and in the future professional features will be deployed only on



the Advanced IDU (L2 mode, high throughput with 20Msps RTN link carrier symbol rate, UT MIBs accessible from the LAN interface, auto pointing HTTP interface...)

First Time Installation of User Terminals: the Self Activation Process

Installation of User Terminals will be based on a web process, known as Self Activation Process, which will guide the Installer to:

- assess the quality of installation
- verify satellite network synchronization
- proceed with service activation

The Self Activation Process is initiated on a multi-language web page available to any CPE connected to the User Terminal to be installed: in this phase, any attempt to access external URLs will result in the automatic redirection to the Self Activation welcome page.

No specific software is required for the UT installation. For further details on the installation process, the appropriate documentation shall be consulted.

As an option on some Video approved ODUs and/or Video approved IDUs, is available an auto pointing feature allowing with a press button to point the Video ODU.

Besides the actual equipment set up (antenna mounting and pointing, cabling, etc.), the entire process was designed to require:

- minimal human intervention on site
- no remote assistance from Customer (or Eutelsat Broadband) if needed

For further reference on the Self Activation process, a dedicated specification document shall be consulted.



OSS Booking for Assured Bandwith On Demand

In order to guarantee the required capacity for occasional use, the Customer can book the needed throughput and the transmission timeslot in a specific Section on the OSS (Operational Support System) Web Portal for each single NewsSpotter unit⁸.

Bandwidth will be made available only during those sessions previously booked through OSS. Outside the booked sessions just the access to OSS is granted by default.

An optional solution is available to provide Customers who make request of it, with a URL redirection feature to a captive portal, owned and managed by themselves, instead of the default OSS.

User Terminals (Video, Residential and Professional) within the same Beam share the global throughput of the beam they are fed by. To guarantee the availability of the required connectivity for occasional use, it is thus essential that the Customer specifies in advance as a minimum:

- the identifier of the NewsSpotter unit (SAI, Satellite Account Identifier)
- the location of the Uplink (required for identifying the Beam from which the service will be provided)
- the required throughput from the NewsSpotter unit to the KA-SAT PoP (Return Link Channel/Upload); maximum value is 10240 Kbps (IP data rate)
- the required throughput from the KA-SAT PoP to the NewsSpotter unit (Forward Link Channel/Download); maximum value is 10240 Kbps (IP data rate)⁹
- the timeslot of the transmission
- the destination IP address (optional; only for Troubleshooting purposes)

Instructions to use the Booking Section of OSS are available on a dedicated Guidebook, while Terms and Conditions of usage are specified in the Framework Agreement.

Booking Recommendations

It is strongly recommended to switch on the User Terminal 30 minutes before the Scheduled Session starts.

The scheduling of a new Session for the same Unit is possible only if the new session has a gap of at least 30 minutes from another Scheduled Session (starting time and/or ending time). Ongoing sessions can still be extended unless this goes against the above 30 minutes gap requirement.



Different types of NewsSpotter services:

NewsSpotter Baseline Service:

Baseline Service includes bandwidth On Demand and the KA-SAT Pop Delivery. Bandwidth will be made available only during those sessions previously booked through OSS. Outside the booked sessions, only the access to OSS will be granted.

Ready-Made NewsSpotter solutions, featuring the following default configurations, are available as alternatives to the Baseline offer:

- *NewsSpotter Internet Access with Bandwidth On Demand* providing On Demand access to the Internet. Bandwidth must be reserved through OSS Booking.
- *NewsSpotter Internet Access with Best Effort Mode* providing two choices of Internet access, On Demand or Best Effort mode. On Demand bandwidth must be reserved through OSS Booking.
- *NewsSpotter Baseline with Internet Access* providing delivery of traffic to a KA-SAT PoP and access to the Internet through the KA-SAT Network, dependant on the destination IP address. Bandwidth must be reserved through OSS Booking.
- *NewsSpotter Baseline with Best Effort* providing two choices of traffic delivery to a KA-SAT PoP, On Demand or Best Effort mode. On Demand bandwidth must be reserved through OSS Booking.
- *NewsSpotter Double Hop* providing UT to UT traffic according to the destination IP address and with no access to the Internet Bandwidth must be reserved through OSS Booking and no traffic out of the booked sessions is available.

Customized and ad hoc Services :

As an alternative to the Baseline and Ready Made Models, an Ad-Hoc Service Model allows Customers to apply to NewsSpotter a specific set of Options. The validation and implementation of an Ad-Hoc Service depend on the complexity of the configuration. Definition and implementation of these services will follow a structured and phased approach.

More information?

For more information on the M2sat NewsSpotter Services

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