ADVANCED (IP) NEWSGATHERING

ST Engineering

Newsgathering Today

To cover live news events, camera crews today deploy mobile solutions capable of transmitting video, voice and broadband services over a multiservice communication link. This is made possible by leveraging the power of IP.

As broadcasts of news events are often unplanned and happen at remote locations, it is not always immediately clear which type of cost-effective IP connectivity will be reliably available for the duration of the coverage.
To aggregate enough IP bandwidth to handle all of applications that the news crew requires concurrently, all available IP networks need to be bonded, whether they are 3G/4G, microwave, Wi-Fi, fiber, or Ka- or Ku- band satellite.

When terrestrial bandwidth becomes contended, the satellite link needs to dynamically scale to higher bandwidths

When terrestrial bandwidth becomes contended, the satellite link needs to dynamically scale to higher bandwidths.

This Solution Overview discusses how next-generation IP satellite links boost connectivity for newsgathering crews, providing high availability and throughput while remaining flexible, cost-effective and addressing Quality of Service (QoS) challenges

DIALOG

powered by
Newtec ⊀ iDIRECT

Traditional Newsgathering

The live coverage of outside broadcast events has traditionally been an expensive and logistically cumbersome business. Investing in specialist satellite trucks or using expensive satellite services – either by making use of traditional transponders or Mobile Satellite Services (MSS) – made cost-effective coverage impossible.

Bonded cellular technology changed the game for newsgathering, but there are times when cell coverage can be poor and available bandwidth limited, making it unsuitable for replacing satellite links.

## Modern Mobile Newsgathering

Modern newsgathering is not only about live video. Today's news crews require access to many applications, including Voice- over-IP (VoIP), video clip transfer, web and archive browsing, email and social media. In addition, they can also make use of applications such as Avid iNews or Octopus Newsroom.
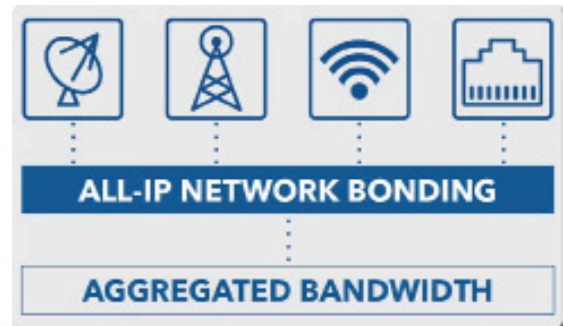
All these applications require a reliable bi-directional IP "multiservice" communication link of a sizeable bandwidth, which allows news crews to operate as if they were in the studio. As the event may not be planned ahead of time, it is often unclear which type of IP connectivity will be available and reliable during the entire duration of the coverage.

In order to aggregate enough IP bandwidth to handle all the services that are required in a remote location concurrently, cellular bonding can now bond all available IP networks at a given point in time – whether those networks are cellular, microwave, Wi-Fi, fiber or satellite.
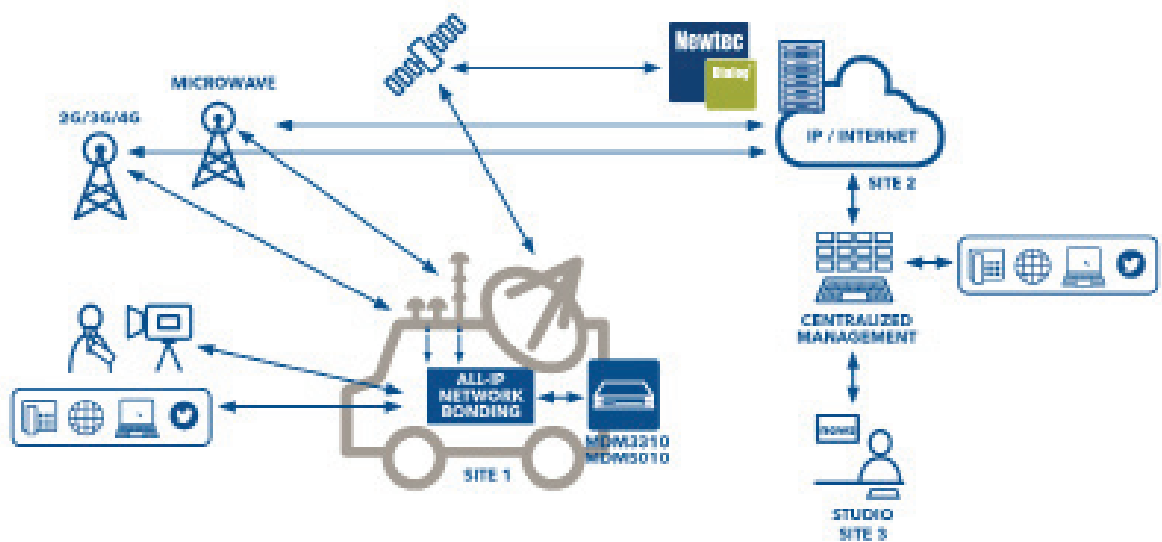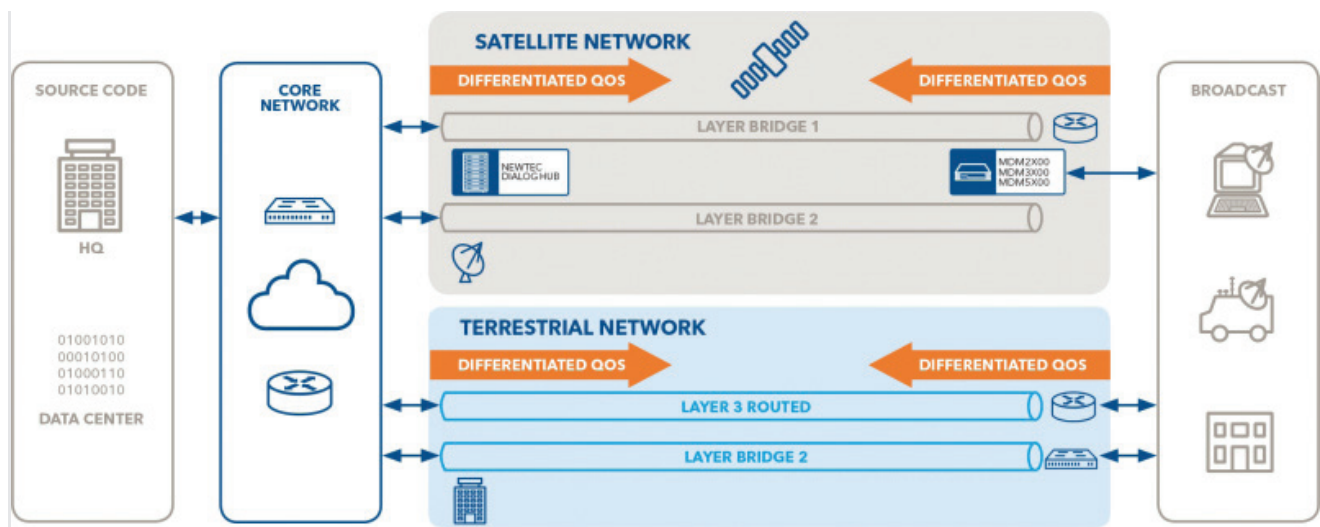
On top of having a wide range of IP-supported media available, an intelligent connection management system handles bandwidth fluctuations over each media, taking into account the different QoS these services require per terminal. In addition, the management system can also flexibly address the re-distribution of available satellite bandwidth over remote terminals that are communicating concurrently.

Modern mobile newsgathering kits are designed to operate in this way. In the race to be first-to-air, flexibility, agility, efficiency, reliability, portability and usability are critical.

When Would Newsgathering Crews Rely on an IP Satellite Connection?

- When terrestrial links are unavailable, for example, in war zones or following a natural disaster.
- When terrestrial links don't provide enough bandwidth, or when bandwidth becomes contended over time as more news crews arrive on-site to cover an event.
- When cellular connections suffer from too much jitter, affecting the video quality.
- When terrestrial links are not cost-effective, for example, for unplanned events outside of the standard coverage footprint.

Satellite Transmission Challenges and Overcoming them

SCPC vs MF-TDMA

Current satellite technologies MF-TDMA and SCPC either do not adequately support on-demand bandwidth, or are unsuitable for high efficiency/high bitrate transmissions.

Switching between the two can cause considerable satellite link outage, packet loss and space segment fragmentation.

Mx-DMA® addresses these challenges, combining MF-TDMA flexibility at SCPC-like efficiencies while supporting higher bitrates for both forward and return link. Also with Mx-DMA, Ka-, Ku- and even C-band can be accommodated.

Deterministic QoS Behavior

A satellite-provided IP-pipe needs to provide a similar level of flexibility as terrestrial networks, creating the need for a multi- level deterministic QoS model such as that delivered by the Newtec Dialog® platform.

This allows for a Service Level Agreement (SLA) which guarantees QoS for different services in changing weather conditions across a number of mobile terminals.

Scheduling System

When a satellite operation is intended to work independently of other IP media, dedicated scheduling software with a customer- friendly Graphical User Interface (GUI) can be provided.

The SATLink Manager is an example of this, addressing management of space segment allocation and time-based session rights, and easy session-based QoS profile switching (CIR/PIR configuration)
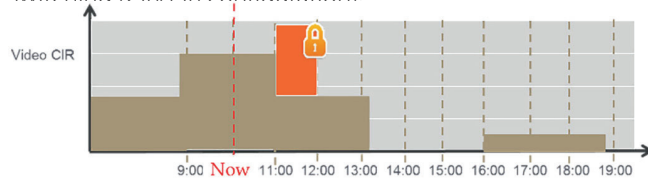
Integration into an Intelligent Connection Management System

More know-how on the satellite network's status (for example, congestion levels) and control over QoS configuration parameters (CIR/PIR) enables connection management systems to act intelligently, based on their know-how of all-IP networks. This information is retrieved through a rich API of the VSAT platform, such as the one provided by Newtec Dialog.

Operational Considerations

Satellite infrastructure and space segment may be owned or purchased as a managed service, while hybrid models are also possible.

New pay-per-use business models put broadcasters and news crews in control of their bandwidth management and expenses. Flexible service plans can be accommodated.

Examples of managed services already relying on Newtec Dialog include IntelsatOne® Prism and Network Innovations MAVERICK.