

NEWS
IN BRIEFArqiva news
for France 24

Arqiva has won the contract to distribute the France 24 news channel to the UK. The five year contract sees Arqiva providing multiplexing, uplink and satellite services that deliver the channel's English language feed to the BSkyB and Freesat platforms as well as to an extensive network of hotels. Arqiva uses its facilities in France and global terrestrial fibre network to bring the channel's feeds to the UK. The English language feed is then uplinked onto Arqiva's Eurobird 1 satellite capacity through one of its international teleports. Exclusive delivery of the service began on 1 November. David Couret from France 24 said, "France 24 broadcasts extensive live prime-time content so it is crucial that our broadcast chain is as robust and reliable as possible. Arqiva is widely recognised as the UK broadcast specialist so we are pleased to be able to utilise their expertise in distributing our content in this essential market."

www.arqiva.com

Boss manages BR

The Head-End Management System Dimetis, Boss Broadcast Manager, will shortly go in to production at the location Ismaning in the new DVB-T Multiplex-Centre of Bayerischer Rundfunk. Signal processing is completely covered by the Multiplex Centre, from the encoding of video and audio signals to the statistic multiplex, which creates distributable transport streams. The addition of service information is part of the complete solution as well as the SFN (Single-Frequency Network) adaptation of streams. The concept consists of three DVB-T multiplexers for an efficient playout of 12 programmes. Planning, installation and deployment of the heterogeneous hardware components, as well as the integration of Boss Broadcast Manager for the control and the fault management in the multiplex centre, was coordinated and performed by the German software company Dimetis. Further, the integration of a multiviewer solution for monitoring on content level and DVB standards was realised by the Dimetis Boss Stream Viewer.

www.dimetis.de

Direct ENPS video

Synaptic Digital and ENPS, a division of The Associated Press, announced that video content from Synaptic Digital's global distribution portal, thenewsmarket.com, can now be sent directly to ENPS customers for use in highly integrated MOS-based production workflows and eco-systems. By feeding content directly into ENPS-enabled newsrooms, content providers using thenewsmarket.com are now able to make their content directly accessible to the ENPS desktops used by journalists and editors in subscribing newsrooms.

www.synapticdigital.com
www.enps.com

Reality for multi-link cellular video uplinking

Guest Opinion

By Baruch Altman, director, LiveU

The world of technology never stands still for long: no sooner have the benefits of using cellular-bonded backpacks over 3G been recognised by broadcasters than 4G begins to be rolled out. New 4G LTE networks, we are told, offer considerable bandwidth benefits allowing consumers, especially smartphone users, to take advantage of surfing and downloading content.

Does the same apply for HD (1080, 720), or even SD, live video transmission from the field for broadcast or online use? Well, yes and no.

For the 3GPP 4G LTE (not LTE-Advanced which is still some way from realisation), with all the variations in operators, territories, spectrum, infrastructure and modems, significantly higher total bandwidth is certainly possible with LTE both in the downlink and the uplink. Lower uplink latency is also achieved.

But notes of caution must be sounded. The fundamental factors that affect 3G networks and have an impact on uplink video transmission affect 4G — or any cellular network for that matter. Regardless of the exact bandwidth demand versus availability, many of these factors touch on the basic requirement from live broadcasting: resiliency, stability, anywhere, anytime.

Firstly, the topology: the number of base stations and antennae deployed and their locations — up high with great line of sight or around the corner in a high-rise urban area where signal quality can be compromised. Then, as with 3G, multipath interference and fading is an issue with 4G, for example in built-up areas. Of course the distance from the tower remains very important in limiting the momentary performance of a 4G device, even more so in the uplink.

Bandwidth drop

Secondly, the frequency being used has a very real effect on performance. In much of Europe, for example, 2.6GHz is allocated for LTE whereas 3G uses 2.1GHz. That's a big enough difference in indoor penetration to cultivate a whole new technology called Femtocells, designed specifically to address problems related to indoor coverage.

Thirdly, since the maximum bandwidth is higher for 4G LTE, so is the bandwidth amplitude. This means that in case of RF interference or other cause of change — for example, a truck passing between the user and the tower or more subscribers sharing the capacity — a significant sudden bandwidth drop and/or latency increase may occur. In other words, if a user is uplinking live at 2Mbps, and there's a sudden momentary uplink drop to 200kbps, that broadcast is in trouble.

Another factor is the backhaul from the base transceiver station to the backbone, mainly fibre or microwave. To realise the potential LTE bandwidth increase, opera-

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tors need to invest in strengthening the backhaul and that seems to be happening in stages. What appears to be the case is that for any given backhaul capacity, operators tend to increase more the downlink capacity because that's where most subscribers' usage lies.

LTE coverage is currently very limited compared to 3G. Whereas 3G reach has grown significantly beyond city centres, LTE deployment is only beginning in city centres while suburban, let alone rural areas, will see much later deployment due to ROI issues, except if forced by regulation. Still, broadcasters need the peace of mind to be assured that broadcast-quality



Live TX: what's required is as high sustained 'goodput' with as low sustained latency as possible

video will be delivered, regardless or not of whether there's 4G network coverage.

Lower latency

Initially, of course, there are very few users on any new LTE network but sharing the uplink capacity applies as much as it did previously. Even before an

increase in users and a rise in bandwidth demand, 600Kbps and lower sustained uplink speeds had been observed for entirely understandable reasons, representing a difference between theoretical, maximum, average or published speeds and what's practically achieved in the field.

Multi-link solutions that use 4G LTE and other available networks, allow broadcasters and online video professionals to enjoy the benefits of both the 4G and 3G worlds. While harnessing the extra bandwidth and shorter delay provided by the LTE network, bonded solutions overcome LTE difficulties with 4G/3G technology switching. A properly-designed LTE-bonding system automatically switches a greater percentage of the transmitted video bandwidth over to the 3G networks in relevant areas without, for example, succumbing to broadcast breakdowns because of relying too much on any single LTE link.

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