Aurora brightens the satcoms horizon

Airbus - the new name of Astrium - has put in place the foundations for a new high-throughput maritime broadband service, which it claims will not lock shipowners into a single technology platform

After having had just enough time to get comfortable with Astrium Business Services as the new name for longstanding maritime VSAT reseller Marlink, so it was decided somewhere higher up the corporate hierarchy to restructure and rebrand. Astrium Business Services will henceforth be known as Airbus Defence and Space.

But perhaps more important is that the renamed company burst on to the stage at Satellite 2014 in Washington DC to announce a radical new service offering, called AuroraMaritime, designed to provide the shipping industry with an obstacle-free pathway to the era of high throughput satellite broadband - but taking a route that doesn't have to involve Inmarsat's Global Xpress.

For the present, Airbus is tempting shipowners to make the switch to the enhanced Ku-band service by immediately doubling up the download allowance and speed they get on the company's existing VSAT packages (for Marlink customers, that would be WaveCall).

For instance, if a shipping company is already contracted on 10Gb monthly data plan, then, by switching to the equivalent AuroraMaritime package (eg, marketed by Marlink as WaveCall Plus), they will be upgraded to 20Gb for the same cost. If they have an agreed CIR bandwidth of 256Kbps, this will be ramped up to 512Kbps.

Furthermore, AuroraMaritime includes free-of-charge L-band back-up capacity, although this is limited to email only - crew won't have access to YouTube or their favourite social-media hang-outs. However, given that email is still the preferred medium for transferring data between vessel and shore, it makes sense for maintaining emergency connectivity out-of-Ku coverage.

AuroraMaritime also bundles the latest version of the XChange connectivity management suite, which seamlessly handles VSAT and MSS switchovers and lets fleet IT managers remotely administer various aspects of their ships' IT and communications set-up. Originally developed and introduced by Vizada in summer 2011, more than 900 units are now deployed at sea, with United Arab Shipping Company and CMA-CGM counting among its more high-profile users.

XChange v3.0 optionally packs a 'Bring Your Own Device (BYOD)' friendly Wifi solution, allowing shipping companies to offer their crew affordable voice and Internet services delivered to their own smartphones, laptops and tablets, whilst retaining full control of their communications budgets.

But the most important point about AuroraMaritime is that the capacity/performance upgrades don't require shipowners to spend money replacing antennas or related hardware. And Airbus wants this to remain the case even if owners want to upgrade to high-throughput services (HTS) as they become available.

AuroraMaritime is part of AuroraGlobal, a multi-band 'network of networks' Airbus has created for government, maritime and enterprise markets in response to rising demand for data over satellite. The driver for this initiative is to 'take advantage of future technologies today'. Crucially, it isn't based on any single technology. Rather than putting all its eggs in one basket, Airbus is taking a pluralist approach. 'Our stance is to be technology agnostic. In the context of satcoms, this means we are also frequency agnostic. As far as we concerned, the days of fighting about Ka-band or Ku-band or C-band or L-band are over,' said Tore Morten Olsen at an official press-launch held in London.

Such is its clout in the marketplace, Airbus is able to drive a hard bargain with satellite operators, such as Inmarsat, Intelsat, Eutelsat, Telenor, SES and Thuraya. And, it would be difficult – if not impossible – for any of these players to insist on exclu-

◀ Survey ships, such as PGS' *Titan*, are big consumers of satellite capacity

sivity clauses.

Stressed Olsen: 'We want our customers to choose us because they want to – not because they have to. We want them to discover for themselves the value we provide, without having to lock them into a proprietary network or technology.'

Olsen draws a parallel with the evolution of the mobile phone ecosystem. 'In the early years, consumers would choose handsets according to what services they operated with: GPRS, Edge, 3G etc. Handset manufacturers would even use multi-band [Ed: 900Mhz for Europe or 1800Mhz for the US] global roaming compatibility as a selling point. Today consumers don't have to make those decisions. An iPhone will automatically switch between the different bands and protocols without the user getting involved,' he explains. 'The objective for us is to replicate

What makes Epic so epic?

For Intelsat, the deal with Airbus marks a significant endorsement of its EpicNG proposition, but it's worth remembering that Airbus is already a significant customer of the satellite operator's conventional C- and Ku-band services.

Conventional Ku-band VSAT is powered by transponders on the satellite that illuminate large swathes of the globe. These wide-beams offer extensive geographic coverage, but at the expense of constrained capacity. Epic on the other hand utilises tightly focused spot-beams, which allow higher data throughput but are constrained smaller areas. The secret-sauce is a tehnique called frequency re-use, which allows numerous narrow-beams to operate in close proximity, like the compound eye on an insect, in order to reinstate the wider coverage.

'To date the conversation has been dominated by arguments over which frequency is best -L-band vs Ku-band vs Ka-band etc. But that's not the whole story. It's about how you use that frequency,' observes Intelsat's director of mobility services James Collett. 'For us a satellite operator frequency re-use can deliver some very big gains, which ultimately feed through to the end-users of our service.'

Moreover, whether the satellite link is facilitated by a wide-beam or a narrow-beam, as far as the antenna is concerned it is still the same Ku-band service. For shipowners, this means they can enjoy vastly improved connectivity between vessel and shore without having to replace or change their existing satcoms equipment.

Strategically combining wide-beam and narrow-beam footprints neatly addresses another long-standing challenge in providing connectivity at sea. The performance of a satellite link in a given area is a function of how many users are trying to connect at the same time. Epic therefore lends itself to areas with a higher density of vessel traffic, while conventional wide-beam Ku-band ensures that connectivity can be offered in more remote, less busy regions.

The North Sea, the English Channel and the Mediterranean form a major traffic hotspot in Europe. From a satellite perspective, the offshore activities in the Gulf of Mexico become intertwined with the passenger ship traffic in the Caribbean. In East Asia, Singapore is very hot, but there is also growing oil and gas activity in the South China Sea and along the north west shelf of Australia.

Collett also draws attention to Epic's open architecture. 'From a communications perspective, maritime isn't a one-size fits all business. There isn't a single value proposition capable of satisfying all segments of the marketplace, from cruise to merchant marine, from offshore to fishing. The issues relating to frequency bands and spot beams, i.e. dimensioning the satellite capacity for a given region and application, those are matters for our resellers - like Airbus, MTN, HarrisCaprock and SpeedCast - to ponder when crafting services for their target maritime customers.

'Choice is normally linked to competitiveness, which is linked to the most attractive price point,' says Collett, drawing the conclusion that getting locked in with a single vendor using a proprietary technology on a rigidly defined network is probably not a wise move.

that kind of seamless connectivity in a maritime context.'

AuroraGlobal embraces existing satcoms technologies, including all the usual suspects of C-, L- and Ku-band as well as the more esoteric X-band (thanks to Airbus' heavy involvement in the defence sector). But Olsen says it will work just as happily with imminent HTS services, such as Intelsat's Epic NG turbo-boost for Ku-band and Inmarsat's Ka-powered Global Xpress.

Last December, Airbus signed a strategic agreement with Inmarsat to supply the new service through its worldwide distribution channels in key vertical markets, predominantly maritime but also government and defence sectors. Airbus - or Marlink - has historically been the largest distributor of Inmarsat's airtime services, generating up to one-third of its sales according to some estimates. However it's no secret that relations between the two companies have been strained of late.

Then in March, the service provider announced a major deal with Intelsat, gaining it access to the satellite operator's new EpicNG technology platform. The deal has been regarded by some in the industry as a punch in the nose to Inmarsat. The move effectively allows Airbus to create an alternative high throughput broadband service to GlobalXpress. Moreover, EpicNG is backwards compatible with existing Ku-band kit: no new antenna required.

Intelsat says it forthcoming Epic satellites will each be able to handle in between 25-60Gbps – or approximately ten times the throughput of today's birds. In practical terms, it's estimated that a ship equipped with 1m antenna sailing under an EpicNG spot beam could enjoy speeds over 150Mbps. Irrespective of whether such speeds are commercially viable or even necessary, it goes to show that 50Mbps – the often cited pedal-to-the-metal speed of GlobalXpress – is by no means an upper limit to what's now about to come possible.

Telenor blesses Sailor VSATs

Cobham SATCOM's Sailor VSAT antennas have been approved for operation on the existing Ku-band as well as the forthcoming Thor 7 Ka-band satellite from Telenor Satellite Broadcasting (TSBc). Thor 7, TSBc's latest satellite is expected to be launched towards the end of this year and is equipped with a Ka-band high-throughput payload. Both Cobham's Sailor 800 and 900 VSAT antennas have been approved to support Ku-band services on the existing Thor fleet. Additionally, the Sailor 900 will be compatible with Thor 7.

Thor 7's Ka-band capacity is strategically positioned over the main shipping routes in Europe and major oil and gas exploration and production areas including the North Sea. The satellite will offer between 6-9Gbps throughput with up to 25 simultaneously active spot beams. As such, Telenor is confident that end-users will have reliable download speeds measured in tens of Mbps, even from small antennas. Upload speeds will be between 2-6Mbps depending on antenna size. The satellite operator says it is also taking steps to mitigate rain fade on Ka-band, through such measures as building a new uplink site in Norway to provide antenna site diversity.

'Thor 7 has been specifically designed for the mobility VSAT market. It offers concentrated and high powered coverage over the North Sea, Mediterranean and the Baltic Sea,' says Telenor's Julian Crudge. 'The Ka-band HTS payload adds vital growth capacity for our long standing maritime and energy customers and Sailor antennas will be ready for the start of Thor 7 Ka-band service delivery.'

Cobham SATCOM states its Sailor VSAT antennas introduce a fresh approach to maritime VSAT thanks to their simple procurement and installation in addition to top of the line RF performance. After ordering a complete system with a single part number, the antennas leave the factory fully tested and configured, with all RF equipment installed, which simplifies logistics for the service provider and reduces the time needed onboard for installation.

'Approval of Cobham SATCOM's antennas for Thor 7 strengthens the longstanding cooperation we have with Telenor and is testament to the standardisation approach we have for Sailor antennas,' adds Casper Jensen, VP of maritime business at Cobham SATCOM. 'Our maritime users will be among the first to benefit from the power of HTS with innovative, reliable Ka-, Ku- and switchable Ka/Ku-band antennas from both Sailor and Sea Tel already prepared for the next generation of maritime VSAT services.'

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