

The ties that bind

0ne of the most significant developments that Intelsat, a provider of content delivery services to broadcasters, has announced in 2004 was the launch of its fibre-based, digital video-delivery network.

Fibre-based delivery networks continue to live up to its promise of providing a cost-effective and scalable infrastructure for broadcasters around the world. Millette Burgos reports.

Called the Terrestrial Media Transport (TMT), the service is Intelsat's North American extension of its GlobalConnex suite of services, using a worldwide hybrid terrestrial and satellite infrastructure.

The scalable TMT primarily serves North American broadcast customers that want to back-haul or distribute their contents within North America or from that region to other countries worldwide.

However, broadcasters in markets like Asia can now avail of this service for the distribution of their contents or programming to North America.

Jon Romm, president of Intelsat's media and entertainment business unit, said: "TMT is a fibre-based video network solution that connects customers seamlessly with Intelsat's global satellite fleet for worldwide video contribution and distribution requirements."

For this new hybrid satellite and fibre network, Intelsat chose Tandberg Television to provide all the essential equipment as a single turnkey video solution. The turnkey solution includes Tandberg's latest digital compression, and control and monitoring, plus integration services.

In addition to these fifth-generation MPEG-2 standard and HD compression equipment, Tandberg is providing CORTEX, an advanced scheduler that allows Intelsat to centrally manage and allocate resources and bandwidth.

CORTEX was installed at Intelsat's video-operations centre (VOC) in Washington, DC, USA. Tandberg is also supplying third-party equipment, such as ATM switches and routers.

One of the main features of the TMT is the 'slipless' transport of content. This refers to the service's technology that provides instant

backup in an outage situation, according to Romm.

He said: "Optical-fibre systems are deployed in a ring architecture, with two or four fibres for redundancy and network resiliency.

"A collapsed ring is one in which the ring fibres are all laid as part of the same bundle. If the bundle gets cut, all the fibre lines go down."

However, with the TMT system, two simultaneous and totally redundant feeds of the same content are carried for every transmission that takes place on the network. "If either of the feeds does not arrive at its destination for any reason, the slipless switch instantly switches to the other feed in a split second, which is almost unnoticeable to an average viewer," Romm assured.

He further revealed: "Broadcasters will not experience the multiple-second, or even multiple-minute outages that are prevalent today, even for fully redundant fibre solutions that follow the traditional backup methods.

"Moreover, by using Tandberg's nCompass monitoring system, we are able to monitor all equipment within the network for troubleshooting to isolate a problem, should there be one."

Customer satisfaction is also in the mind of REACH, headquartered in Hong Kong. One of its major selling points to clients, such as broadcasters, is its extensive cable network that stretches over 364,000km around the globe, with nearly half of it terminating in its major hubs in Hong Kong and Australia.

The company has interests in more than 40 submarine-cables consortia, including:

- REACH North Asia Loop Cable System (RNAL)
- Japan-US Cable System (JUS)
- Asia Pacific Network 2 (APCN2)
- Southern Cross Cable System
- Australia-Japan Cable System (AJC)
- South East Asia, Middle East, Western Europe (SEA-ME-WE) Cable System
- China-US Cable System

Anita Currie, REACH's global manager for satellite services, noted that niche applications for fibre is opening up.

An example of this, she revealed, is an unnamed Chinese-entertainment



Intelsat's TMT product, ideal for transmitting HD sports content.

channel client that transmits its content from Hong Kong to Los Angeles, USA, via fibre connection. Initially, this client transmitted its content using REACH's satellite facility, but switched to using the company's fibre networks instead.

"The key driver for them in moving from satellite to cable is to save money," said Currie.

Also, as the client supplies entertainment content that does not have to be broadcast live, this channel is an ideal candidate to make the shift.

Currie added: "They also have the capability to plug the gaps in case of outages. So they feed the cable signals straight into their own master-control room in Los Angeles, and they have taped content on hand to fill any gaps before rebroadcast."

Another unnamed client, a global occasional TV-service provider, uses REACH's ATM-fibre service to deliver Asian content to Europe from Hong Kong. Currie said this is a good example of a point-to-point application, which is a major broadcast fibre service that REACH offers.

She said that the Athens Olympic Games this month would also present an opportunity for REACH to lease out its fibre networks to various broadcasters worldwide.

Meanwhile, with the increasing amount of global HD transmission taking place, both Intelsat and REACH revealed that their facilities would be up to the challenge of handling this new format.

Although REACH is gearing its HD transmission services towards the company's satellite platform, its massive fibre network can handle HD, Currie disclosed.

Intelsat's Romm said: "Media entities need a new type of fibre-based delivery network that can flexibly accommodate their diverse needs, from SD all the way to HD, via a single interface."

He added that fibre transmission would continue to have a place in the global transmission chain.

"The benefits of leveraging both terrestrial and satellite technology provide numerous contribution and distribution options for broadcasters and allow them to use either fibre, satellite or a combination of both technologies to achieve the highest-quality transmissions and the best cost efficiencies," Romm said. **APB**

Global REACH

