

Japanese MSO upgrades to new Nimbra transport solution

Last year, ZTV, one of Japan's best-known cable-TV multi-service operators (MSOs), began planning to update its regional distribution network. Its existing TV distribution, from the headend to the hub nodes, was using legacy Intermediate Frequency (IF) modulation over fibre, which made integration with other services difficult. The IF transport platform was also reaching its end-of-life.

ZTV, which began operating in a single area in 1994, has since expanded to cover 31 areas, with more than 300,000 subscribers in the west central region of Japan. Today, the communications service provider has over 100 TV and FM radio channels, including a wide selection of HD programmes, together with 160Mbps high-speed broadband, Internet and primary voice-over-IP (VoIP) telephony services. In addition to bundled service offerings to consumers, ZTV also provides enterprise ICT services such as Ethernet data and iDC data centre services.

Until the new network it had been planning was placed, ZTV had to rely on separate backhaul networks for TV, voice and data. The company recognised the need to integrate more services over the same fibre in order to save capacity for the future as well as improve and simplify management of the network.

The new transport solution should support multicasting of SDTV and HDTV, high-speed broadband Internet, VoIP, file transfer for exchange of local programmes as well as enterprise data services over the same network.

With so many services carried over a single platform, the new solution called for support network and equipment redundancy, and should include a comprehensive network management system for monitoring and provisioning of services. And because ZTV coverage areas are at risk of service outages caused by seasonal typhoons, a more stable and resilient backbone network is necessary.

The solution

ZTV selected the Net Insight Nimbra platform because it was considered technically "superior" in regard to multi-service sup-



port for broadcast TV and different types of IP data — not only for the initial ring network, but also for future expansions of the network into a meshed topology. The capabilities of the Nimbra Vision network management system and strong local support that Net Insight's business partner, Itochu Cable Systems, provides were also key reasons ZTV chose Net Insight.

The phase one network consists of eight Nimbra 680 switches with the main headend connected to seven hub nodes over a dark fibre ring. Each Nimbra 680 node is equipped with flexible eight-port video access modules for ASI multicasting and the eight-port Gigabit Ethernet access module for data services. ZTV selected the 10Gbps STM-64 trunk interface for the fibre ring to have a future-proof network supporting service expansions.

The carrier-class Nimbra 680 switch comes with redundant power supply, redundant 80Gbps switch modules and redundant control modules. The ZTV network also implements redundant access modules and separate trunk modules for the east/west fibre ring interfaces to maximise service availability.

The Gigabit Ethernet access card supports a variety of services, thanks to its built-in layer two switch. The Ethernet Switching functionality includes full IEEE802.1D/Q multipoint-to-multipoint MAC layer switching, allowing ZTV to tailor

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The results

The new ZTV cable-TV network was installed in the first half of this year. Initially, the network was used only for TV distribution of 19 ASI transport streams from the main headend, delivering both DVB-C and ISDB-S services to the hub nodes where QAM modulators are located. A total of 29 transport streams will later expand this over the same network for HDTV.

The Gigabit Ethernet cards will deliver consumer and enterprise data services in a second phase. For consumers, the network offers high-speed Internet back-haul circuits from DOCSIS cable modems. For enterprise customers, the Nimbra solution provides high-quality Ethernet private line services. Future expansion plans include VoIP distribution circuits between telecom soft switches and local CMTS. If demanded by enterprise clients, there are also plans to add multipoint-to-multipoint LAN services.

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GCA transmits reality shows in HD

Starting last month, GlobeCast Australia (GCA) is transmitting one of the UK's biggest reality TV hits in HD for the first time. The team deployed the 10th season of Granada's *I'm a Celebrity, Get Me Out of Here*, for Britain's ITV, live across the globe.

Satellite uplink and downlink infrastructures have been installed in the rainforests of northern New South Wales for send and receive transmissions, via connectivity to GCA's international network of fibre and satellites. Live transmissions will go to both *Optus D2* and *Intelsat IS-5*, on leases operated by GCA; and on its global fibre network, which runs from Auckland through Sydney to Los Angeles and London.

The broadcast service provider was also on location in Costa Rica last year, as Granada had produced a season of the live show for US broadcaster NBC, with GCA transmitting to *IS-9* and *IS-805*. The team has also previously worked on the German version, *Ich Bin Ein Star*, and will reprise a series for Germany early next year.

Such key entertainment live events supplement regular live sports and news deliveries by GCA for leading international broadcasters, along with its provision of more than 130 full-time and DTH channels across Australia and New Zealand.