Intelsat Channels Services Continuation Options

Taking an industry leadership position for decades, Intelsat provided IBS and IDR services to its affiliates to connect remote users and foster growth. These Channels services were based on throughput at a given availability (typically 99.95%). As these services are retired, it is imperative that users evaluate options to determine the best steps forward for meeting point-to-point connectivity needs.

One option is to continue service with the same levels of throughput as today, utilizing existing equipment. Unfortunately, in many cases, the equipment that was installed many years ago does not support the latest modulation and coding methods. This can result in the need for significantly more space segment to meet required throughput levels and, therefore, a less cost- effective solution.

Another option is to leverage new modulation and coding methods that are available in the latest modem platforms to minimize the resulting Total Cost of Ownership (TCO) of continuing services into the future. By leveraging the latest technology advances, one of two results can occur when compared to utilizing existing equipment and converting straight to a lease:

1. The same throughput (Mbps) can be transmitted through significantly less bandwidth (MHz), or
2. Significantly more throughput (Mbps) can be transmitted through the same bandwidth (MHz).

The Comtech EF Data CDM-625A Advanced Satellite Modem features the VersaFEC-2 Forward Error Correction and Modulation method, an Adaptive Coding & Modulation (ACM) technique along with its patented DoubleTalk® Carrier-in-Carrier® (CnC) bandwidth compression to provide the highest Mbps/MHz rates in the industry. The following table provides a snapshot of three typical scenarios and the results of leveraging these new technologies. Each row represents a different use case while the last two columns provide either the bandwidth (BW) saved (in MHz) or the additional throughput (in Mbps) that can be sent through the current satellite resource.

	Current Solution			**Proposed Solution Based on the New Technologies (CnC, Coding & Modulation, Roll Off)**					
	Current Mod/Cod	Current BW (MHz)	Current Throughput	Proposed Mod/Cod	Max Throughput, Same BW	Same Throughput, Less BW (MHz)	CnC Technology	BW Saved	Increased Throughput
IS-904 EH/EH	IBS QPSK 3/4	4.185	2x2048 kbps	16ARY 0.75	2x5800 kbps	0.72	YES	82.80%	283.20%
IS-902 NW-SW	TCM/IDR 8PSK	3.195	2x2048 kbps	16ARY0.8/32 ARY0.85	3500+4160 kbps	1.80	N/A	43.66%	187.01%
IS-905 EH-NE	IDR QPSK 3/4	2.025	2x1024 kbps	32ARY0.8/32ARY0.7	3800+3500 kbps	0.57	N/A	71.85%	356.45%

Additionally, the CDM-625A provides lossless payload compression along with IP header compression engines that push these efficiencies even higher through dataflow intelligence. For simplicity purposes, these savings were not considered in the examples above.

For those interested in cost-effective service continuation with Intelsat, please contact Comtech EF Data for assistance with designing an upgrade to fit your unique requirements at: intelsatchannelsupgrade@comtechefdata.com

intelsatchannelsupgrade@comtechefdata.com
2114 West 7th Street, Tempe, Arizona 85281 USA

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