BigBand Digital Simulcast

By deploying BigBand Digital Simulcast cable operators can offer basic programming content to any subscriber while taking advantage of digital media processing and transport technologies. The broad functionality of BigBand Networks' solution includes rich media processing with Rateshaping®, digital ad insertion, GigE IP transport and QAM.

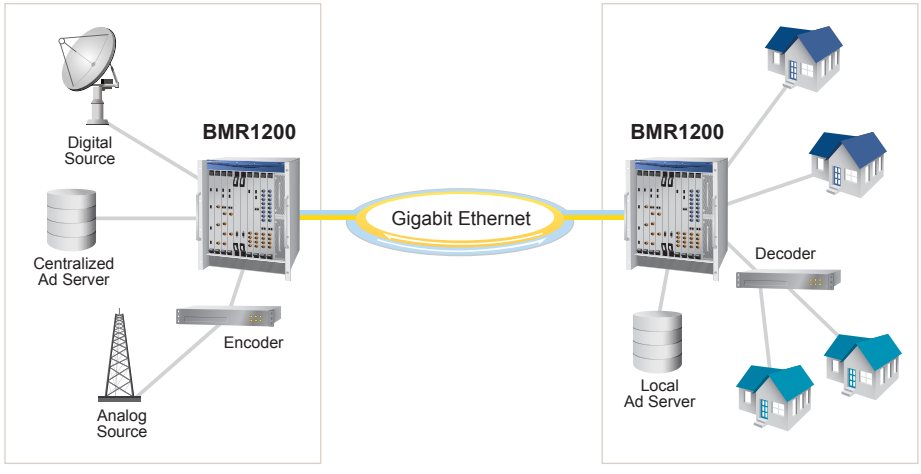
BigBand Digital Simulcast offers significant capital and operating benefits. By converting analog programming to digital at the headend, and providing subscribers both the digital versions and original analog versions, a cable operator can converge its video transport to a single tier, resulting in significant operational savings. At the same time, an operator can deploy less costly and more secure all-digital set-top boxes for new and changing subscribers and prepare for next generation digital service offerings. In addition, BigBand Digital Simulcast provides a migration path to analog reclamation and all-digital networking, with its bandwidth efficiency benefits.

Encoding analog content and transporting it digitally results in higher video quality, mainly because digital video signals can re-generated an unlimited number of times without degradation. The BigBand BMR® (Broadband Multimedia-Service Router) is able to provide superior video quality at low bit rates by performing closed loop encoding typically in combination with an encoder, further enhancing the inherent efficiencies of digital transport.

Advertising profits benefit from the use of digital ad insertion, which is both streamlined and more economical than analog splicing. BigBand Networks offers the flexibility to centralize or distribute ad servers, or create a hybrid of both. In the case of a centralized topology, the BMR splices different ads into multiple copies of the same program and forwards them to specific geographic zones. Targeting by demographic profiles is also supported. Digital ad insertion complies with SCTE 30 2001 and SCTE 35 2001 standards.

BigBand Networks' expertise in solutions design, installation, training, and technical support, enables an operator to deploy, operate and maintain BigBand Digital Simulcast solution with ease.

Digital simulcasting with digital ad insertion using BigBand platforms



Summary

- Leverages digital technologies to improve video quality, content security, service reliability, transport costs, advertising profits and enable all-digital bandwidth savings
- Offers end-to-end digital simulcast functionality including MPEG, IP and Ethernet packet processing, digital ad splicing, GigE transport with CWDM or DWDM, and QAM
- Provides superior quality video with improved bandwidth efficiency, using multiple technologies including closed loop encoding and RateShaping®
- Fully interoperates with all services in any network environment with ASI, DHEI, GigE, FastE and QAM/RF ports
- Features advanced ad insertion capabilities such as targeting to geographies zones or demographic groups
- Complies with SCTE 30 2001 and SCTE 35 2001 standards, and supports SCTE 30 to SCTE 35 conversion for GigE DPI
- Supports intuitive provisioning and performance monitoring with easy-to-use drag-and-drop GUI
- Provides EAS (Emergency Alert Systems) for Clear QAM TVs

BigBand Digital Simulcast

Comprehensive Digital Simulcast Solution

The broad functionality of the BigBand Digital Simulcast solution spans encoding, decoding, media processing, QAM, digital ad insertion and GigE IP transport. The company's platforms are deployed in headends and hubs, and can be connected using a variety of network topologies such as diversely-routed fiber rings, 1+1 linear systems and mesh configurations, achieving enhanced service reliability.

The versatile BMR processes MPEG, IP and Ethernet packets in their native formats, using RateShaping to ensure that statistically multiplexed program flows achieve the best utilization of bandwidth. Up to 96 ASI or DHEI inputs, 72 ASI or DHEI outputs, 32 GigE outputs, and 64 broadcast QAM outputs are available in one high density chassis. The BMR is interoperable with a broad range of DPI infrastructure, either ASI or GigE, including full support for SCTE 30 to SCTE 35 conversion, allowing digital cue tones to be inserted into a program stream if not already present.

Furthermore, since the digital ad splicing resides on the BMR, RateShaping can be applied to multiplexes consisting of both ads and other content, with an operator having full control over bit rate adaptation priorities.

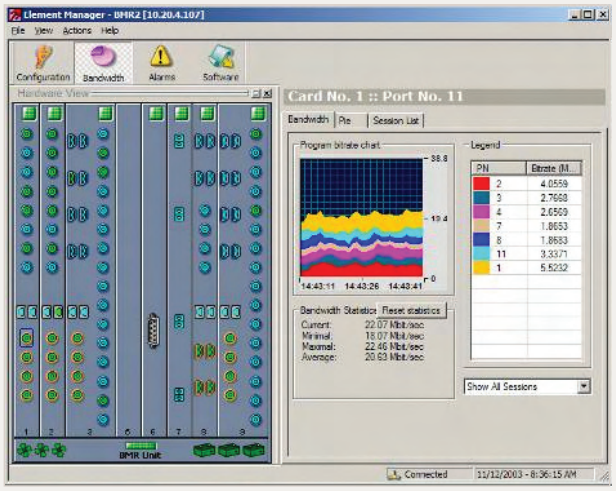
High Availability with Program-Level Redundancy

The BigBand BMR offers program-level redundancy, achieving service reliability beyond what is possible from a redundant network topology alone. In a redundant headend configuration, each facility receives two identical video streams: the primary program source consists of inputs from local encoders, off-air feeds and satellite feeds, while the secondary programs are sourced from the backup headend. Due to its video-aware networking capabilities, the BMR can detect a failure or significant degradation in any of the programs on the primary feed and automatically switches to the secondary source for these programs. Redundancy at this level dramatically improves availability and the subscriber viewing experience.

User-Friendly Management Suite

The BigBand Management and Server Suite makes it easy to configure and monitor the BMR, and dynamically provision content and services. GUI-based management provides a wide range of features, including drag-and-drop creation of output.

BMR Element Manager, one of several GUIs available with BigBand Digital Simulcast



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