



Innovation for the Media and Broadcasting Industry

The Future Speaks IP

“IP”: This two-letter abbreviation, which stands for “Internet Protocol” is revolutionizing the transmission technology. The protocol from the IT area has now permeated the telecommunications (TC) sector as well. The results are numerous new radio and media applications. However, radio and television impose very high demands. The media sector is characterized by a high degree of innovation and exclusivity on the one hand but, on the other hand, has a great need for security and requires services that are available around the clock. This can only be achieved by sophisticated technology.

IP Innovations by MEDIA BROADCAST

Today, many production and studio devices are IP-capable and equipped with Ethernet interfaces. IP-compatible networks form the seamless complement for internal and external data exchange. Due to increasing demand for secure, flexible and multifaceted transmission possibilities, MEDIA BROADCAST began early on to develop a highly available broadcasting network based on IP. Here, the rapid diffusion of digital production processes, the preferred use of file-based services, the networking of workstation and editing systems with direct access to server landscapes and the possibilities of working together as a so-called “networked generation” played a formative role. And in addition, all transmissions must be possible in real time.

Broadcast NGN: The Evolution of Networks

The operation of customized networks for radio transmissions has always been part of MEDIA BROADCAST’s core business. These networks are reserved for closed user groups. As a so-called premium network, they represent an important part of the value-added chain for production companies and television stations: from production to the playing of contents via cable, satellite and terrestrial platforms.

However, due to increasing digital production processes, existing networks are reaching their limits. In addition to digital live transmissions, production networks and digital archiving, integration of services and new distribution

platforms are playing an increasingly important role. This requires higher network capacities and a flexible management system.

With Broadcast NGN (Next Generation Network), MEDIA BROADCAST is clearly advancing the development of IP networks for broadband real-time and “best effort” applications in the media sector. This is not only made possible by even faster network elements with a high degree of data throughput, powerful computer-supported architectures and new software protocols such as IP-MPLS. But also by network terminations that can be flexibly equipped – that is, end-devices that offer many formats. With Broadcast NGN customers receive a standardized, open IP platform with various service level agreements (SLAs) and service classes. Customers’ virtual private networks (VPNs) can also be integrated and managed by the customers themselves.

The migration of existing networks and connections to Broadcast NGN is also supported. Special adapters are available for this in order to integrate common formats, such as SDI or ASI, directly into the IP network. This enables customers to participate in the new network services without having already converted to a full IP-based environment themselves.

Mid-2007 MEDIA BROADCAST began building such a nationwide broadcast IP network. In the meantime this network has been approved for operation under the product name “MEDIA BROADCAST NGN.” NGN successfully passed its first test in spring of 2008 during the second half of the German Soccer League season. The new network transmitted the SD and HD signals, multi-channel sound and additional data services between the stadiums and the studios. With an initial 18 hubs in Germany, the meshed network currently allows transmission rates of up to 10 Gbit/s. At the same time, several HD signals can be transmitted from one or various sources.

IT, TC and Radio Signals United

However, the network, which was primarily developed for the high demands of real-time transmissions, offers more than just “speed.” The IP-based solution also integrates TC and IT services and thus supports voice services such as Voice-over IP applications, data center linking and Internet connections in addition to data transmission. Other possibilities reside in corporate communications, for example corporate TV and employee training. The exchange of medical information such as link-ups of live images of operating rooms between hospitals is also possible. The various applications can be

separated from each other through innovative network management. Even real-time services do not suffer from loss of quality with simultaneously running "best effort" communication.

Network Security as a Priority

The network offers a high degree of protection from failure thanks to the fully meshed network structure and separate routes in the backbone. In the event of an error, the solution automatically switches to a stand-by transmission route within milliseconds. All important network elements are redundant for this purpose. In addition, these are monitored and managed remotely by MEDIA BROADCAST. Special accesses to network management, separate management and usage data as well as special concepts for the set-up of VLAN structures on the network ensure optimal security.

An Overview of the Range of Services

- Standardized, open transmission platform
- Migration support for existing networks and services
- Customized service levels and classes
- Optimized broadband management
- Customized VPN can be set up
- Secure future through the use of worldwide standards
- Guaranteed high quality of the services

Interfaces (with corresponding configuration of the end-device):

HD-SDI, SD-SDI (HD or SD serial digital interfaces), DVB-ASI (asynchronous serial interface), AES/EBU (audio interfaces), E1 (primary multiplex interfaces), FE (Fast Ethernet), GbE (Gigabit Ethernet).

Other interface versions are possible.

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