The emergence of Internet Protocol TV (IPTV) deployments is creating a huge demand for a reliable, flexible, and affordable Internet Protocol Set-Top Boxes (IP-STB). A European Set-Top Box (STB) manufacturer committed delivery of a new IP-STB design to an established North American telecommunications company ready to deploy IPTV pilots, trials, and services. Six months later, the IPTV project was jeopardized by a variety of problems such as poor performance, unacceptable video quality, network packet losses, and incompatible software resulting in schedule delays. With a dire need for a robust, reliable, flexible, and proven IP-STB software solution for the new IP-STB platform, Media Excel was contacted in an emergency meeting to provide a solution and to get the IPTV project back on track. This IP Broadcasting case study provides a description on how Media Excel's SoftStream® IP-STB software addressed these problems and provided a timely and robust IP-STB solution.

Improved IP-STB Software Performance
Media Excel's SoftStream® IP-STB standards compliant encoding and decoding software was designed using a breakthrough proprietary high quality, high performance algorithm that rivals the performance of dedicated hardware chipsets. Media Excel's expert Codec Engineers optimized SoftStream® IP-STB software for the new IP-STB platform reducing the CPU load from an average of 80% to less than 35%, therefore immediately relieving the performance bottlenecks and enabling third party applications and middleware to operate within specifications.

Superior Video and Audio Presentation Quality
The new IP-STB design exhibited quality problems, namely poor video quality and poor audio-video synchronization. To ensure that these new device met consumer expectations, Media Excel designed special SoftStream® IP-STB software algorithms to render high quality video and multi-channel audio output signals which remain fully synchronized and operate error-free over extended periods of time, thus ensuring a superior user experience in the home.

Network Quality of Service (QoS)
Delivering content over IP networks currently lack QoS guarantee. Although the IPTV network operated within specifications, packet losses did occur. When packet losses occurred the output video quality was negatively impacted resulting in a poor user experience, which customers deemed unacceptable. Media Excel's Network Resilience algorithms provided the needed IPTV QoS and has been shown to operate under adverse network conditions with up to 30% packet loss. Media Excel's IP-STB Network Resilience software enhanced the IPTV broadcasts without disruption of quality.

IPTV End-To-End Interoperability
Media Excel extensively verified SoftStream® IP-STB to ensure interoperability with third party IPTV encoders, media servers, middleware, and an extensive set of media clips. SoftStream® IP-STB interoperates with Optibase, Tandberg, Scientific Atlanta, Streaming 21, Kassena, and Microsoft and Alcatel middleware packages.

Reducing Time-To-Market
Media Excel's SoftStream® IP-STB software team delivered a fully functional prototype in 2 days helping the IPTV project meet deadlines and delivery schedules. Media Excel's extensive IPTV development "Know How" significantly minimized the development cycle, time-to-market, and time-to-revenue.

SoftStream IP-STB Deployments
Media Excel's SoftStream® IP-STB software solutions are currently deployed in Korea, Germany, and North America and it is expected to be deployed worldwide as IPTV services are introduced by the telecommunications companies and service providers.