

## ***Application Note***

# **Efficient Subtitle Workflow and DVB delivery**

### ***Boom TV - Romania***

Boom TV is a new satellite delivered TV service based in Bucharest, Romania. Their requirement for an efficient Captioning workflow is common to many transmission centres, however they benefited from installing a complete system, included browse media management, from the outset.

### ***Workflow***

Data management is an important part of the system and ensures efficient automated operation.

Under control of Pebble Beach automation, new content is ingested into the SeaChange BML server. Starfish Immedia Transcoder then generates a browse media version of any content that is required for subtitling in either MPEG 4 or Windows Media formats. The media being ingested on the SeaChange server can be encoded in DV or MPEG formats and Immedia Transcoder operates on both media types.

To aid with subtitle authoring, Starfish Immedia Transcoder also extracts any existing subtitle information present in the VBI of the ingested media, and performs shot change analysis (and generates associated thumbnails), along with audio analysis to produce an audio waveform.

Sitting on the same network are a number of Starfish Isis subtitle authoring workstations. Users of these workstations open the browse media and, working in a WYSIWIG environment, create a set of subtitles to accompany the media.

While the subtitles are being created, they are stored in a central Starfish server, but once they are completed, a transmission file is exported from the Starfish subtitle database in a format compatible with the Starfish TransCast DVB subtitle playout system.

### ***DVB Transmission Workflow***

At the time of transmission, Pebble Beach automation instructs the TransCast DVB to load the subtitle file at the same time as it readies the SeaChange server to play out the media. When transmission starts, the SeaChange server delivers video simultaneously to the Harmonic multiplexer, where it is compressed into MPEG, and to the associated Starfish TransCast DVB subtitle playout system. TransCast DVB extracts the timecode from the video and uses it to synchronise the playout of the subtitles to the Harmonic encoder where they are multiplexed into the final MPEG transport stream.

