



# Media Technology and Broadcast

The media and broadcast industries have been through a process of major transformation as the convergence with IT technology has progressed. Although specialist video and audio engineering knowledge is still essential, a deep knowledge of IT infrastructures, networks and storage is a key element to the successful design of any efficient media system.

The demand to reduce cost in both capital expenditure and on-going operational charges, whilst simultaneously reducing complexity, has never been greater. Combined with this is the desire to monetise content across every possible revenue stream. The solution to these new challenges is to implement new and more efficient workflows.

Starfish Technologies has invested heavily in technology development and now has a wide range of in-house expertise and products that can be configured to build sophisticated media centric systems.

With this broad software expertise and specialist systems design capability, Starfish is ideally positioned to design, build and operate systems for media suppliers across a wide range of applications. With an emphasis on system design that meets a specific workflow requirement and is heavily automated, these systems can offer significant operational cost savings.



Starfish Technologies was founded in the U.K. in 2000 and has an excellent reputation for meeting the expectations of broadcasters and media companies by supplying innovative products and systems. Starfish solutions are proven in service and have been implemented by an impressive list of media customers. Headquartered in Reading, U.K. Starfish Technologies is an ISO 9001 registered company.

## Core Capabilities

**Regional Television / Ad Insertion Systems** - Transport stream or base band video, centralised or remote architecture, flexible and scalable

**Transport Stream Splicing** - Frame accurate and low latency splicing, used in Transport Stream media insertion and encoding systems

**Transport Stream Processing** - Includes programmable delays and subtitle processing

**Multi-Platform Delivery** - Media shaping and multi-format delivery over IP

**Sophisticated System Monitoring** - Tailored monitoring and control via a web browser

**Opt-Out Encoding and Decoding** - SCTE or VBI

**Scheduling** - Interfacing to a range of Ad sales and generic programme scheduling systems, Starfish also offers its own scheduling software

**Video Transcoding** - Using industry standard algorithms ensures high quality encoding and rapid support for new formats and standards

**Audio Processing** - Including Dolby encoding and a range of Audio Description applications

**Compliance Recording** - Flexible configurations supporting SDI or IP inputs

**Subtitle and Closed Caption processing** – Vast experience of subtitling technology applied to traditional TV and DVB transmission systems

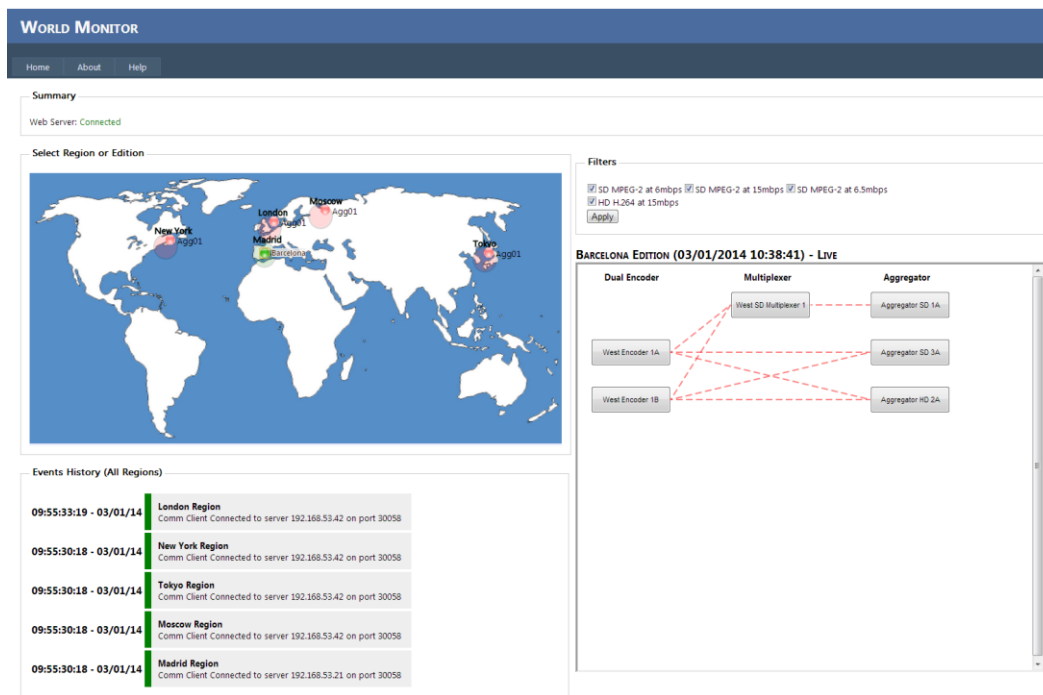
**Logo Insertion** - Static and animated logos can be added within the media processing systems

**Audio Description** - Complete end-to-end file based workflows

**Media Systems Design and Implementation** - Extensive experience of building IT based media workflows



Starfish Technologies is an authorised HP OEM and works with some of the world's leading suppliers of technology for specialist media applications including Main Concept for Media Transcoding, and Dolby Labs for audio encoding and processing.



Example of the web interface to a Starfish Remote Monitoring System

## Regional Insertion Systems

Increasingly, forward-thinking broadcasters are responding to the pressures on advertising revenue by regionalising content. In addition to attracting new advertising business, local news and programming has proved popular with audiences and strengthens channel branding. The use of this technology can be extended beyond traditional TV broadcast to include IPTV and mobile media. Starfish Technologies builds automated systems for TV Channel Regionalisation and Ad Insertion. These systems enable the addition of regional content and advertising, with minimal changes to the existing infrastructure and can utilise a centralised or Edge Playout (Cloud) architecture. Starfish offers dedicated Edge Playout servers and uses tailored web based system monitoring and control. Options include multi-platform delivery, compliance recording, logo insertion, subtitle and audio processing

## Transport Stream Splicing

A software based solution for low latency, frame accurate or GOP boundary splicing. Integrated SCTE decoding or controlled via external automation commands. Additional features include flexible configuration and support for industry standard interfaces. This technology is offered as a standalone product running on HP server hardware, or incorporated into a Starfish media replacement system.

## Transport Stream Processing

A range of technologies for processing Metadata, Video, Audio and Subtitles in Transport Stream based media.

## Audio Description

Also known as Video Description or VI. Audio Description is an additional audio commentary for the visually impaired that accompanies the normal programme sound. Market leaders in this arena, Starfish Technologies offer the most comprehensive product range of file-based technology encompassing authoring, audio processing and automated delivery. These products enable efficient and cost-effective creation and delivery of this increasingly mandatory service.

## System Design

A number of Regional Insertion Systems have been built for Ericsson Broadcast Services in Sweden. The latest of these systems performs regionalisation for TV4, the largest independent TV channel in Sweden. The system produces 30 regional variations of the main channel feed providing local Ad insertion and local news inserts. It outputs each region in a range of encoded formats and bit rates over IP.

The system receives schedules and Ad sales information from TV4 and interfaces directly to the main channel broadcast automation system and the TV4 News room system. It incorporates a fully redundant architecture with automated failover.



Complete system designed and built by Starfish Technologies