



# Starfish Technologies and Zixi Unlock Seamless Content Replacement & Signal Processing

## HIGHLIGHTS

### Zixi Integrated Starfish Processors

#### TS SPLICER

Combines the functionality of an integrated Ad server, SCTE 35 opt-out signal decoding, input stream switching and transport stream splicing for Ad insertion or content blocking applications.

#### TS SIGNAL PROCESSING

Add or modify control signals in an encoded media stream.

#### KEY FEATURES

- Enable additional revenue opportunities in Zixi protected streams as they're delivered
- Programmatically block rights restricted or unsuitable content
- Decorate the transport stream with SCTE-35 ad markers or process existing markers
- Manages signal processing and stream splicing without requiring a decode; minimizing processing artifacts and signal processing delay
- Supports Zixi protected transport streams with MPEG-2, h264 and HEVC encoded media
- Supports Zixi enabled SMPTE 2022-7 hitless streams

## ZIXI ENCRYPTED TRANSPORT STREAMS MANAGED DIRECTLY WITHIN STARFISH TS SPLICER AND SIGNAL PROCESSOR

Starfish Technologies users can now leverage Zixi encryption as part of their content replacement and advertising workflows. Zixi orchestrates delivery of live video streams using AES-256 and DTLS encryption, maximizing content protection while also minimizing latency. Combined with Starfish TS Splicer and Signal Processor, Zixi streams dynamically splice in content substitution or insert additional control messages for advertising breaks or rights policy enforcement.

## ZIXI INTEGRATED DIRECTLY WITHIN STARFISH TECHNOLOGIES PRODUCTS

Providers of TV and media streaming services need to replace content (such as advertising or unsuitable material) and process break markers and parental control information in encoded streams. This processing should be implemented without creating artefacts and with minimal processing delays

Starfish TS Splicer and TS Signal Processor have native Zixi protocol support built right in. This means that Zixi customers can effortlessly begin seamlessly switching input streams and splicing transport streams for ad insertion or content blocking applications.

Typical applications include adding SCTE35 ad break commands, modifying existing ad break commands, adding anti skip control signals and parental control content markers.

These products are used by content providers of traditional TV broadcast signals or OTT platforms to enable additional revenue opportunities through advertising insertion, or by blocking unsuitable content. They also manage ad break markers either by processing existing signals or adding markers under control of the broadcaster's automation systems.

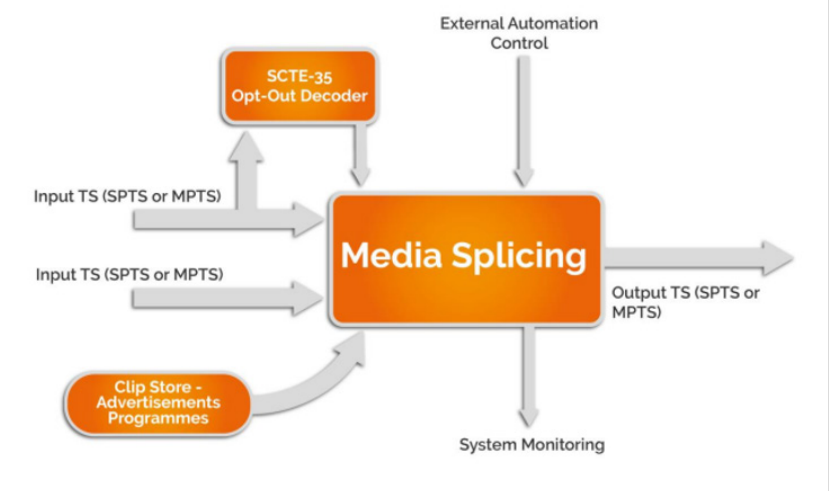
They are software-based solutions that run on generic COTS hardware and are scalable for single channel or large multiple channel systems.

## Resilient, Secured, Low Latency Processing and Delivery

### UTILIZING ZIXI TECHNOLOGY TO ENSURE BROADCAST-QUALITY STREAMING WHILE ADDING NEW REVENUE OPPORTUNITIES WITH STARFISH PROCESSING

Starfish Technologies TS Splicer and TS Processor integrate Zixi to ensure that customers get a seamless feed. Thanks to Zixi's bonding of IP networks, there is a seamless alternative whenever necessary ensuring that if a connection is lost, alternative live routes are available to continue reliable streaming. Zixi streams are congestion aware, dynamically adjusting to ensure every frame is reliably delivered at the lowest possible latency and with the highest quality. This is important as Starfish processing operates in GOP boundary and frame accurate modes when splicing together disparate content, guaranteeing that content substitution does not disrupt continuous playout or create processing artifacts.

The signal processing utilizes our own patented techniques to avoid input signal decoding and introduce minimal signal processing delays. The number of processing channels is easily scalable, and a generic hardware server can support multiple channel implementations.



### ABOUT STARFISH TECHNOLOGIES

Starfish Technologies Limited has an excellent reputation for supplying innovative software solutions to an impressive list of international TV broadcasters and media companies. Starfish has developed a wide range of technology for; Transport Stream splicing and processing, advertising insertion, regional program replacement, media transcoding, opt-out signal decoding and Video Description. With this broad software expertise and sophisticated systems design experience, Starfish is ideally suited to build automated systems for media suppliers across a wide range of applications. Headquartered in Reading, UK, Starfish Technologies is an ISO 9001 registered company.

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### ABOUT ZIXI

Zixi provides a cloud based and on-premise Software-Defined Video Platform enabling the management, orchestration, monitoring, and delivery of broadcast-quality live and live linear video over any IP network, protocol, cloud provider or edge devices to broadcasters, enterprises, over-the-top video providers, and mobile service providers around the world. Over 15+ years, the Zixi Enabled Network (ZEN) of partners has grown to over 350 OEM and service providers with whom Zixi serves well over 700 customers representing most of the top media brands around the world with 20,000+ channels delivered daily.

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