ZIXI-INTEGRATED TRING SOLUTION ACCELERATOR (TSA) FRAMEWORK

JOINT DELIVERY SYSTEM ALLOWS BROADCASTERS TO PROVIDE SECURE, QUALITY VIDEO STREAMING SOLUTIONS AT SCALE

AT A GLANCE

TRING SOLUTIONS WITH ZIXI INTEGRATION

- **Tring Solution Accelerator (TSA) –** Software-defined H.264/H.265 encoding system

KEY FEATURES

- Glitch free video streaming on any device, anywhere

- Experience a reliable, high-quality & low latency viewing experience for the end user

- Content protection and geo-location service

- Support for Trick play for enhanced User Experience

- Monetize your content through various modes

- Customized and targeted recommendations

- Advanced analytics provide a 360-degree business view

THE INCREASING NEED FOR ACCESSIBLE VIDEO

Today's consumers want video at their fingertips. In this new era of content customization, video need be accessible and seamless to stream, whether through a web browser, smartphone, tablet or over-the-top (OTT) apps.

To meet this need, content providers need to utilize new distribution channels and content formats tailored to a diverse set of devices and formats.

ZIXI-INTEGRATED TRING SOLUTION ACCELERATOR FOR DISTRIBUTION

Tring has partnered with Zixi for live video distribution, allowing broadcasters to leverage unmanaged IP networks for video transport with unmatched quality and reliability at an affordable cost.

Zixi's integration into the Tring Solution Accelerator (TSA) framework enables the content provider to offer their customers the ability to consume broadcast-quality video anytime and anywhere.

The TSA framework helps teams build, test, and ship cross-platform hybrid and progressive web apps (PWA) with ease and flexibility. The framework supports accelerated development on a variety of platforms, offering faster time to market, lower costs, and greater flexibility.

Benefits of the Zixi-integrated TSA framework include:

- **Convenient user experience** – End-user features like auto-generated closed captions, time shift, start over, etc means users never miss a moment of the action.

- **Monetization** – Users can monetize content through Transactional, Subscription, or Ad-supported modes.

- **Identification, Personalization & Recommendation** – Extended user behavior analysis to promote or recommend personalized content to users based on their preferences.

SECURE & RELIABLE TRANSPORT

The TSA framework is built upon Zixi's enabled network which uses password-protected session establishment using a secure handshake and DTLS version 1.2 (RFC 6347) with certificate validation and strong AES ciphers for end-to-end protection. In addition, the TSA framework is equipped with various DRM protections such as Widevine, Play Ready, Fair Play Stream. Content providers are also empowered to exhibit control over streams by providing the capability to monitor, restrict and report the number of streams allotted to users. Additionally, geo-restrictions on content can be achieved.

Using this joint solution, customers can deliver reliable, error-free streaming with advanced techniques such as FEC and ARQ for delivery of a seamless, high-quality, and low latency viewing experience. The TSA framework supports HEVC, AVC, MPEG2, ABR and seamlessly supports Zixi capabilities such as re-transmission and congestion avoidance in an optimized and efficient way.

RELIABLE, COST-EFFECTIVE DELIVERY OF LIVE CONTENT

KEY BENEFITS

- **Fast** - Faster time to market by accelerating the web & mobile applications using the framework

- **Economical** - Lower cost by keeping pace with business demands with greater agility

- **Low Latency** - Architected for high-capacity, high-availability, and low-latency; resulting in reliable delivery of content to end-users

- **Improved UX** – Best- in-class user experience is achieved with building a native mobile app, and a responsive and progressive web app (PWA)

- **Support** - 24x7 standard monitoring & support

ABOUT TRING

Tringapps provides Design, Development, Quality control and managed services to implement mobile, web, cloud and data analytics solutions with a cost-effective global delivery model.

Over the last couple of decades, tringapps, Inc. has mobilized more than 1000+ global brands, number of our apps been featured by Apple, Google and yet others have won awards like Webby's. Our apps collectively reach out to more than 380 million subscribers globally. www.tringapps.com

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ABOUT ZIXI

Zixi provides a cloud based and on-premise software platform enabling the management, orchestration, monitoring, and delivery of broadcast-quality live and live linear video over IP and hybrid IP networks to broadcasters, enterprises, over-the-top video providers, and mobile service providers around the world. Over 10+ years, the Zixi Enabled Network (ZEN) of partners has grown to over 100 OEM and service providers with whom Zixi serves well over 500 customers representing most of the top media brands around the world with 10,000+ channels delivered daily. https://zixi.com/

Contact: sales@zixi.com

QUALITY AND ECONOMICAL GLOBAL DISTRIBUTION WITH LOW LATENCY

This joint solution for distribution enables users to cost-effectively stream content across the globe using RTP/RTPS or Zixi protocol.

Zixi provides best-in-class resiliency using a combination of content-aware and network-adaptive forward error correction, error recovery, congestion avoidance, bonding of multiple transmission paths and dynamic feedback to control encoder bitrate, all at a minimal latency.

The Zixi ecosystem consists of three components:

- **Zixi Feeder** receives MPEG2TS over IP from an encoder/multiplexer or is integrated directly into an encoder or DCM and embeds the data into Zixi protocol to send to the Zixi Broadcaster.

- **Zixi Broadcaster** receives multiple feeds, either in Zixi protocol or in MPEG2TS over IP. The Zixi Broadcaster then provides the feeds it receives to a number of Zixi Receivers. Communication between Broadcaster and Receiver is always in unicast and in Zixi protocol.

- **Zixi Receiver** requests the data from the Broadcaster, converts the Zixi protocol back into MPEG2TS over IP, where it is sent out over a network interface or is integrated directly into a receiver/decoder device.

The flow from Zixi Feeder input to Zixi Receiver output is transparent for MPEG2TS packets.

With minimum overhead to physical bandwidth, this dynamic mechanism removes jitter, recovers and re-orders packets, smooths video delivery enabling the streaming of broadcast-quality video over any distance, while overcoming the varying network conditions of unmanaged IP networks including the public Internet.

For end-users, the TSA framework repackages the stream to HLS, DASH, and RTMP, backhauls via Zixi protocol, and outputs MPEG-TS, RTP, and UDP for reintegration into broadcast systems.

Integration of Tring Solution Accelerator Framework (TSA) with Zixi