



## ZIXI ZEN MASTER

# Centralized Orchestration and Telemetry Control Plane for Live IP Video Workflows

## Recent Enhancements (2025)

- Live Event Stage Management**  
Flexible control for automated and manual stage transitions, including mid-event duration adjustments and operator confirmations.
- SCTE-35 Manipulation Controls**  
Define insertion PIDs and replacement behavior directly on sources and failover channels within ZEN Master.
- POIS via ESAM Agent** End-to-end support for Placement Opportunity Information Service (POIS) workflows when paired with Broadcaster v18+, enabling coordinated SCTE-35 replacement across systems.
- Frame Thinning Control**  
Manage Zixi's adaptive Stream Thinner at the source or target level with configurable latency settings.
- Traffic Shaping & FEC Overhead Management** Fine-tune transport performance using new per-source and per-target controls for bandwidth shaping and forward error correction.
- Distinct 608/708 Caption Monitoring** Independent monitoring and alerting for each caption type, providing precise compliance tracking.
- AWS MediaConnect Integration**  
Thumbnail previews and metadata visualization for AWS MediaConnect channels, including TR-101 data subset display.
- Enhanced Visualization**  
Downstream object mapping, improved diagrams, thumbnail grids, and error concealment overlays on source pages for faster diagnostics.
- DPDK Performance Optimizations**  
Reduced orchestration latency and improved performance for large-scale Broadcaster clusters.
- Expanded API** New endpoints for bulk target assignment, SCTE-35 insertion, live event actions, and per-object telemetry; normalized schemas across all objects for easier automation.

Zixi ZEN Master is the centralized, cloud-based control plane for orchestrating, monitoring, and managing live broadcast-quality video over IP at scale.

ZEN Master provides operational visibility and automation for complex live video networks that span on-premises, cloud, and hybrid environments. It enables engineers and operations teams to configure, monitor, and manage thousands of live streams and events from a single web interface or through a comprehensive API.

ZEN Master is designed for reliability and control at scale – integrating natively with Zixi Broadcaster and the wider Zixi ecosystem to provide unified orchestration, telemetry, and alerting across contribution, distribution, and delivery workflows.

## CORE CAPABILITIES

### Centralized Orchestration

Remotely configure and manage Zixi Broadcasters and live workflow objects – including sources, channels, and targets – across any network or cloud environment. Define ingest, processing, and delivery relationships from one console.

### Workflow Visualization

Automatically generate real-time topology diagrams to visualize live video flows between sources, broadcasters, and targets. Interactive views display health, bitrate, latency, and redundancy state to simplify troubleshooting and root-cause analysis.

### Monitoring and Alerting

Comprehensive telemetry across all managed entities. Monitor transport health (TR-101), content quality (CQA), SCTE-35 activity, error concealment, and PID mapping in real time. Configure alert thresholds per object to minimize noise and focus on actionable issues.

## INTEGRATION AND WORKFLOW CONTROL

ZEN Master provides centralized orchestration and observability across the full Zixi ecosystem, including Broadcasters deployed on-premises or in public clouds.

### Unified Management Plane

One control layer for all Zixi Broadcasters and managed objects, regardless of deployment location.

### Protocol-Agnostic Visibility

View and manage workflows across Zixi, SRT, RIST, RTP/UDP, RTMP, HLS, and WebRTC connections.

### Event-Aware Switching

Integrates ESNI, ESAM, and POIS workflows for automated source and channel switching.

### Automation and Scheduling

Create and automate live events with defined stages, triggers, and failover conditions. ZEN Master supports both manual and automated transitions and integrates with ESNI, ESAM, and POIS workflows for event-based source switching and ad insertion.

### Reporting and Analysis

Generate system-wide or per-object reports for uptime, performance, and content quality. Historical data and analytics support SLA validation, incident investigation, and long-term operational insights.

### Secure Access and Role Control

ZEN Master supports enterprise-grade security through role-based access control (RBAC) and SSO integration using OAuth2 authentication. Designed for multi-organization environments, it ensures granular access management for global operations teams.

### Elastic Scaling

Dynamically add or remove broadcasters and configure routing via the ZEN Master API.

### Operational Consistency

Apply configuration templates, monitor versioning, and standardize policies across global networks.



## API AND AUTOMATION

ZEN Master's API provides full automation and integration capabilities for NOCs, scheduling systems, and third-party monitoring tools.

### Key API capabilities include:

- Real-time provisioning and control of sources, targets, and channels.
- SCTE-35 insertion and ad signaling management.
- Bulk assignment of targets to pass-through channels.
- Configuration of FEC, frame thinning, traffic shaping, and monitoring ignore lists.
- Query-able telemetry including TR-101 and SCTE data per source or channel.
- Integration with custom dashboards or external orchestration tools.

All API endpoints are documented under a consistent OpenAPI schema with REST and ts-rest support for modern automation frameworks.

## TECHNICAL SPECIFICATIONS

Category	Description
Managed Entities	Broadcasters, Sources, Channels, Targets, and Live Events
Protocols	Zixi, SRT, RIST, RTP/UDP, RTMP, HLS, WebRTC
Security	Role-based access, OAuth2 SSO, encrypted communications
Monitoring	TR-101, SCTE-35/224, Content Quality Analytics, PID and concealment monitoring
Visualization	Real-time topology, thumbnails, downstream object mapping
Automation	Event scheduling, SCTE-based switching, API-triggered orchestration
Integrations	ESNI, ESAM, POIS, AWS MediaConnect
API	REST and ts-rest with OpenAPI schema

## ABOUT ZIXI

Zixi provides Emmy award-winning software solutions for delivering broadcast-quality live video over any IP network with unmatched reliability and cost efficiency. Trusted by leading broadcasters and sports leagues for over 15 years, Zixi empowers businesses in today's fast-paced media landscape to boost revenue, improve operations, and reach wider audiences. Its solutions support multiple live IP video workflows, including content contribution, satellite & fiber replacement, B2B distribution, and D2C enablement.

Zixi's platform offers advanced automation, management, and security features like end-to-end encryption and blackout control. It ensures cost predictability and operational efficiency, providing 99.999% reliability with patented hitless failover technology. This makes Zixi ideal for high-profile sports broadcasts and 24/7 live linear channels. [www.zixi.com](http://www.zixi.com) | [sales@zixi.com](mailto:sales@zixi.com)