# INTELLIGENT DATA PLATFORM

TAKE THE COMPLEXITY OUT OF IP BROADCAST MANAGEMENT AND IDENTIFY ISSUES BEFORE THEY OCCUR USING ML, AI-DRIVEN INSIGHTS AND ADVANCED ANALYTICS

Zixi's **Intelligent Data Platform** (IDP) uses advanced analytics, ML and AI to make sense of the avalanche of stream data flowing across elaborate media supply chains, helping human operators focus on transmission issues and understand where problems are likely to occur before failures are noticed.

Accessible through Zixi's ZEN Master control plane, the IDP uniquely allows media companies to create smarter media workflows by leveraging AI and ML–enabled toolsets for sophisticated event correlation, data aggregation and deep learning that improves broadcast workflows by mitigating risk in the broadcast environment. The culmination of years of investments in data architecture, advanced analytics and event correlation work, Zixi's IDP enables users to oversee, manage, and deeply understand their inputs and outputs by providing ultimate visibility to interpret extremely large data sets and provide customized intelligence and data visualizations to help stay ahead of problems.

With Zixi's **Software-Defined Video Platform** (SDVP) powering the highest value live streams in the world, the IDP has unique access to network and video quality telemetry and can leverage that data to produce proactive insights in a variety of ways and identify patterns that humans cannot.

TELEMETRY WORKFLOW
INTELLIGENT DATA PLATFORM

ZEN MASTER   VIDEO SOLUTIONS STACK
PROTOCOLS   INTELLIGENT DATA PLATFORM
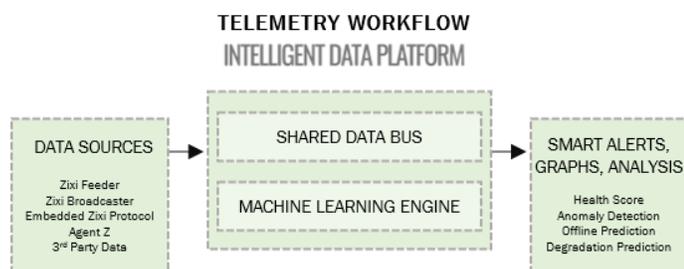
HOW DOES THE IDP WORK?

The IDP consists of a data bus that daily aggregates over **3 billion data points** from hundreds of thousands of inputs within the Zixi Enabled Network, including the 300 devices and system with Zixi built in such as encoders, cloud services and networks, in addition to **proprietary data sources** such as the Zixi protocol and Zixi Broadcaster used by leading media organizations throughout the world. This detailed telemetry data is then fed into **5 continuously updated machine learning models** where events are correlated and patterns discovered.

Machine learning algorithms within the IDP differentiate "normal", or "healthy" data, from the "at-risk" data to help alert the user when issues may be on the horizon. The IDP uses historical data to form a baseline of normal behavior and generates an **Anomaly Score,** and then uses a predictive model to determine the likelihood of unrecoverable dropped packets or stream failure within the next 2 hours – the **Health Score**. Both the Anomaly and the Health Scores are communicated to ZEN Master where they are shown as indicators and graphs over time.

By utilizing billions of data samples per day across hundreds of media companies, Zixi's machine learning models are constantly being trained for accuracy and consistency, continuing to improve over time as more data is aggregated across the platform.

5 KEY IDP BENEFITS

- **Focus and Eliminate Data Overload:** Intelligent alerts and health scores help sift through data so that teams can focus where they need to without the distraction of false alarms.

- **Proactively Ensure Broadcast-Quality:** Fixing problems before they occur through proactive maintenance using predictive models ensures a better QoS and QoE.

- **Reduce Costs and Improve RCA:** Identify the root causes of instability and failure faster and more easily.

- **Increase Productivity:** Automated data processing, analysis and error notification allows operators performing complex analysis to efficiently identify problems and make more informed decisions.

- **Achieve Greater Insight and Visibility:** A reactive or break-fix approach suffers from lack of oversight and is subject to mass variability and volatility. The IDP keeps ahead of errors and issues before they become problems with continuous visibility across the entire Zixi Enabled network.

CORE IDP FEATURES, DATA POINTS AND GRAPHS

- **Zixi Health Score** - A numerical value based on 100+ correlated measurements per source, computed by a machine learning model from over 100 different measurements including packet loss, round trip time, FEC amount, retransmissions, reconnections, congestion and many others

- **Anomaly Detection & Alerting** - Identifies normal behavior and alerts you of deviations through customizable notifications that help engineers and operators pinpoint errors faster and identify trends with continuously updated graphs

- **Historical Graphs** - View health score, anomalies, statistics and more over time to identify trends and visualize data

- **Video Content Quality** - Silence detection, clipped audio, blank image, still image, encoding quality, audio levels and more

- **Perceptual Video Quality** - ePSNR, eVMAF and eSSIM

- **Smart Alerts** - ML-based Health Score alerting, real-time error detection, event correlation and notifications and the ability to create customizable alert thresholds based on specific use cases

- **Zixi.AI Protocol** - Provides ML-based rate control and dynamically adjusts bitrate based on network conditions, updated in real-time
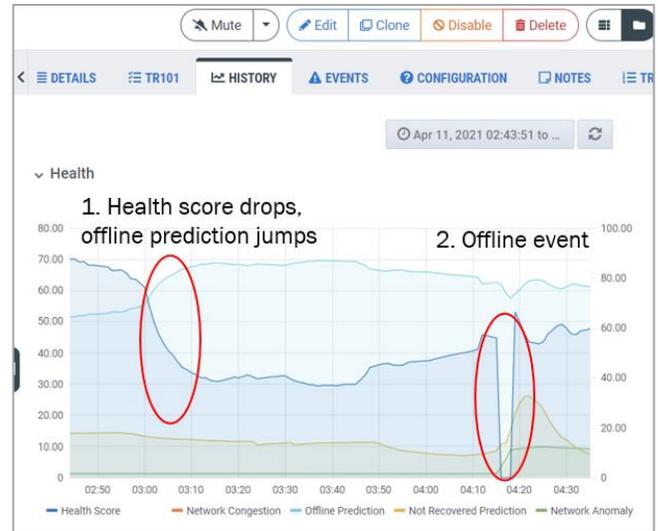
Health Score History Graph Showing Actual Prediction of Offline Event
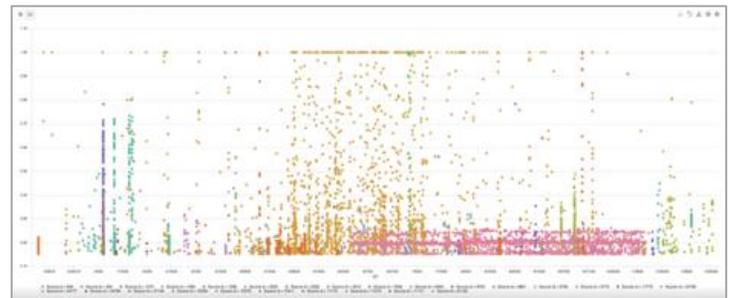
Anomaly Graph
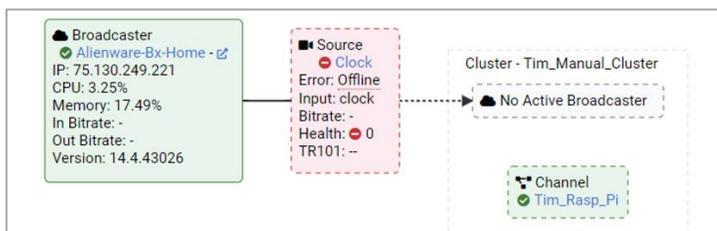
Health Score in Channel Diagram

Health Score in Source List

WHY ZIXI'S IDP IS UNIQUE

- **3 Billion Samples per Day** – Continuously updated models, trained using billions of samples per day across the industry

- **Unique Data Insights** – As part of the SDVP, the IDP has unique access to network and video quality telemetry – at a deeper level than anyone else

- **Proven Broadcast-Quality Delivery at Scale** – The Zixi protocol and ZEN Master power some of the most valuable streams globally, the IDP builds on their strengths

- **Centralized View of Entire Supply Chain** – View and manage the IDP from ZEN Master, which provides a centralized view and access to the entire Zixi-enabled contribution and distribution network

- **Unparalleled Domain Expertise** – With 14+ years of experience pioneering broadcast quality delivery over IP networks, Zixi's software and support is best-in-class

For more information on the IDP, please contact sales@zixi.com