

# Quality Assurance for Streaming Video

- Because *Every Packet Counts!*

*shifting internet video into high gear...*



- Enables high-value video services and applications
- Turns the Internet into a live-video backhaul and broadcast distribution medium
- Turns content providers into virtual cable operators
- Turns the traditional broadcasting world on its head!

Streaming video over contended networks is challenging! Especially if you need to do it real-time, without delays or pauses. You can never be sure that all your packets are going to get through, - and, even if they do, they don't necessarily get there in the right order. Forward Error Correction (FEC) is commonly used to overcome these issues. - But that fix just adds more problems:- As well as more delay, it increases the bandwidth requirement in an already restricted network environment! Which means that you either have to reduce the rate, and therefore the quality, of the encoded stream, or allocate more bandwidth to make room for it. Moreover, FEC is not immune to packet loss as well, so it is not a reliable solution by any means.

Zixi's Video Operating System™ (VOS™) is different. It's patented ConvexPush™ technology syncs the sending and receiving systems and resends only the packets that don't get through. Then the Receiver makes sure that the decoder gets all of them in the right order. Zixi makes better use of the available bandwidth which delivers better quality video, more reliably, at lower cost.

## **Key Features**

- Instant Start
- Continuous Play – No Re-buffering
- Low Latency
- Codec Agnostic
- Any Resolution - Including HD



Encoder



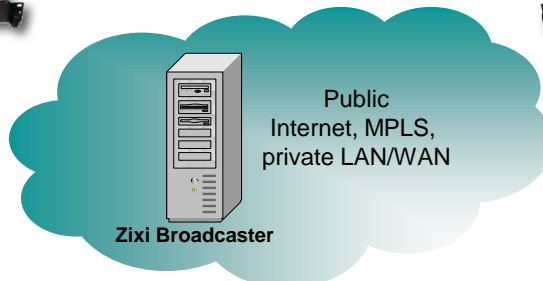
**Zixi Feeder**



Decoder



**Zixi Receiver**



## Architecture

Zixi™ VOS™ is delivered as a software solution. The Feeder and Receiver applications are available in Windows® and Linux compatible versions. They sit between your codecs and the network, and stream to a Zixi Broadcast located out there, in “the cloud”. –

In Fact, while there are a number of Zixi Broadcasters situated at key strategic points around the Globe (so there will be one close to you), the Zixi protocol ensures that distance does not degrade performance, as it nearly always does with other distribution systems.

## Applications

From broadcast contribution services to Internet TV, Zixi can deliver!

The list of possibilities is practically endless, but consider the savings that could be made by using the Internet to backhaul news feeds in place of expensive SNG channels. – Or using a broadband connection for an HD Teleconference.... Training seminars.... Real-time high resolution security CCTV monitoring.... Medical

For use on a private network, or where other factors make it desirable, the Broadcaster can also be licensed and located on your network.

The Broadcaster receives the incoming streams and checks to make sure they are all there, then resends them to as many Receivers as required. It can behave as a multicast rendezvous point, or an Internet Streaming Server. Whether you use a Zixi Internet Broadcaster, or manage your own under private license, the terms of use are contracted on throughput.

consultations in HD.... A global High Definition Internet TV channel.... Sports events on the other side of the World, close enough to real time to allow betting....

....In fact, anything that needs to start up rapidly and keep running smoothly with very low end-to-end delay. Point-to-point or point-to-multipoint. Around the World on the Public internet, or across town over a private network.

## Technical Requirements

It is recommended that you run Zixi software on a platform with dual-core 2.5GHz processor, 2GB memory, 32 or 64 bit Linux or Windows XP/Vista, 160GB disk, and 1Gb network card. – The size of your broadband or network connection is usually what will limit the speed you can run your streams.

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