The Need for The video Streaming in Financial Markets.

Introduction

Financial markets rely on accurate and up to date information to make the split minute decisions that ensure their success. In this competitive and time-pressed environment video streaming can improve the flow of up-to-the minute information that analysts and brokers receive, without causing data overflow and clutter. This white paper discusses how video streaming contributes to improved competitiveness in financial markets and the technical requirements for implementing such a system.

The Forces Driving the Need for Video Streaming

Business TV

Video streaming of financial information to the desktop provides analysts with live up-to-the minute data from multiple sources at their fingertips. Such systems can stream up to 10 channels of news, financial data and business information to thousands of desktops. The availability of up-to-date information in this market segment is critical to its success.

Recognizing the need to provide traders with the latest financial information, banks and other financial institutions are installing state of the art video distribution networks that deliver live real-time news feeds and stock analysis data directly to traders` desktops. By receiving the most comprehensive and updated market information in real-time, the bank is in a position to offer the best financial services to its customers.

Intra and Extra Company Communications

In the past, executives trying to get fund managers to invest in their business would have to spend a lot of time out of the office, traveling worldwide to present their companies. The threat of terrorism and recession have underscored the usefulness of streaming video. Companies need to convince investors to remain loyal. Brokers strive to get their advice heard. And fund managers crave quick and accurate information from both. At the same time, flying to face-to-face meetings has become less popular amid concerns over safety and cost. Hence streaming video services have moved from “nice-to-have” to “need-to-have”.

Analog Video Falls Short

Financial institutions already recognize financial TV channels as an important source of information. But in an analog TV delivery environment, the potential of TV is not leverage as a central tool of information delivery. In many financial institutions it is common to find TV sets that broadcast financial news channels such as Bloomberg and CNBC. Due to the hectic nature of trading floors environments, and the diversity of traders (some deal with options and others with commodities) the TV set, which is usually situated above the trader’s heads, is often muted, and does not supply the immediate and precise information that brokers need.

Some organizations use an analog matrix that splits the analog signal to various locations in the bank. But this can cause an overhead of wiring, which goes against the grain of IT networking, and exists in parallel to existing network infrastructure. Upgrading an analog network and adding additional TV channels is problematic since it involves new wiring and cabling.

Challenges and Solutions to Streaming in Financial Organizations

Networking Infrastructure

In the financial organizations, networking infrastructure is less of an inhibitor to the adoption of video streaming than is perceived. On the contrary, the existence of advanced broadband networks in these organizations can serve as a facilitator for the introduction of TV to the desktop. Indeed, many large financial institutions, led by highly competent IT staff who recognize the potential of their IP networks to deliver TV to their employees desktops, have developed their own streaming capabilities in-house.

Video Quality

Displaying broadcast quality video on a PC monitor is not a trivial task. Although today we can achieve DVD quality when streaming MPEG-2 digital video, it is PCs monitors that can pose a substantial barrier in the video quality display:

Most of the financial TV broadcasting channels utilize an information ticker that runs on top of the regular broadcast signal. When video is displayed on flat plasma screens, it can cause a flickering and trailing video effect on the fonts or digits in the ticker line.

In addition, flat screens usually work in progressive scan mode, also known as 'non-interlaced' or 'sequential scanning'. Analog TV signals and TV sets, on the other hand, operate in interlaced mode, which divides the TV signal into odd and even fields. As a result of the different ways of handling information, when an interlaced TV signal is displayed on a PC monitor, the image appears on the screen as if it were scanned from top to bottom in one pass. This results in flickering on the screen.

Audio Synchronization and Echoing Effects

Two problems can arise from streaming multiple channels of video to dozens of employees:

- Echoing
- Loss of audio-video synchronization

Loss of audio-video synchronization

In a streaming video application, several channels run simultaneously as multicast streams. People at their desks want to switch channels as if they were watching TV. This could cause a loss of audio and video synchronization, because each time a viewer changes channels, the decoder needs to reload a new set of channel parameters to the monitor in a very short time.

Echoing

When streaming multicast video, an unlimited number of users on the network with the appropriate receiving software and hardware can view the stream simultaneously, without overloading bandwidth consumption. As a result, users who are viewing and hearing the same TV channels on their desktop might receive it with a fraction if a second delay. This could potentially create a kind of echo effect with many viewers watching the same channel, but each with a fraction of a second time difference.

The MGW 2000 and Optibase Player

Optibase's streaming and playback solutions are designed to overcome the challenges mentioned above that are usually associated with video streaming in financial organizations. The MGW 2000 streaming server is optimized for streaming efficiently over IP corporate networks without reducing the quality of the video. One of the reasons MGW 2000 is so well suited to business TV environments is its scalability. The MGW 2000 is build on a modular architecture that lets you start with one or two encoders. When more channels are needed, the IT team can add more encoding modules to the platform.

A scheduling interface allows MGW 2000 operators to plan programming, encoding and transmission sessions ahead of time. Additional features such as low latency, Diffserv and QoS support, ensure that TV signals are received on desktops with no delay, or loss of frames.

At the receiving side of the client PC, Optibase ensures high quality, artifact free video images with its Optibase Player and the Video Plex Xpress decoder. The Optibase player receives MPEG data through UDP both in multicast and unicast mode. By supporting the Session Announcement Protocol, the Optibase Player lets viewers see a list of available programs that are being broadcast live or that are scheduled to be broadcast.

Optibase's playback solution lets viewers switch channels without causing any delay. Hence no artifacts are visible on the screen and there is no loss of audio synchronization, which could cause background noise or echo. In effect, employees sitting at their desks can zap through channels on their PC as if they were watching TV.

The Video Plex Xpress has also been optimized to create a de-interlaced decoded stream on the LCD PC monitor and adapt the refresh rate of the decoded stream to the refresh rate of the PC monitor. This results in superb video quality on LCD or TFT monitors, and eliminates any artifacts or image shadows, which usually occur when displaying a TV signal on a PC monitor.

The same Optibase player and Video Plex Xpress decoder can reside inside a dedicated Set Top Box, which can be pre-configured and remotely controlled for displaying the exact same steams on a regular TV set. In this way, you can have additional viewing points that are easy to manage and accessible to a large number of casual viewers.

More about MGW 2000

More about VideoPlex Xpress

System Layout