

Another Starlight Success Story

BLOOMBERG INFORMATION TELEVISION

Problem: Provide high quality and economical headline-style, late-breaking financial and business news programming around the clock.

Solution: Produce live news segments, digitize them, and store them to Starlight StarWorks-50M video networking servers (instead of analog tape). Broadcast segments simultaneously across a variety of media and/or reuse for later productions.

Benefit: Reduced costs, streamlined operations, and improved broadcast quality.

Bloomberg Financial Markets is one of the largest business information and financial news companies in the world. The company provides news, analysis, and multimedia services to more than 42,000 leased terminals at investments and securities firms in almost every country that has significant capital markets or money management activities. Bloomberg also produces Bloomberg Business Market Report, which airs nationally on public TV, and most recently debuted Bloomberg Direct broadcasts via Hughes Network Systems DirecTV.

IN THE RACE TO MEET the information demands of its consumers, Bloomberg Information Television competes by offering 24 hour-a-day, seven days-a-week, headline-style news reports, made feasible by using digital video servers running Starlight Networks' StarWorks® software.

Bloomberg Information Television, a division of Bloomberg Financial Markets, is a 2000-employee, information-based company chartered with producing around-the-clock business and financial news programming. Bloomberg's audience is vast, with business and financial news broadcasts airing not only in financial institutions through the Bloomberg Terminal, but also in hundreds of thousands of homes throughout the United States via satellite, cable, and airwave television broadcasts. Bloomberg Information Television's station debuted in January 1995.

Combining the benefits of digital video with analog television broadcasts

Jonathan Fram, general manager of Bloomberg TV, was looking for an innovative solution to the dilemma of providing quality and timely, yet economical, programming around the clock to a wide audience. Producing traditional live analog broadcasts requires a host of camera operators, producers, online editors, scripters, graphics/animation developers, and several teams of anchor personnel — an expensive operation 24 hours a day. The solution was to combine the benefits of digital video with traditional analog television broadcasting. Live news segments are now recorded digitally to video servers using StarWorks-50M digital video networking software. The video servers are used for shared digital video storage and integrated with custom, in-house developed



The possibilities for exchanging information and sharing ideas are endless

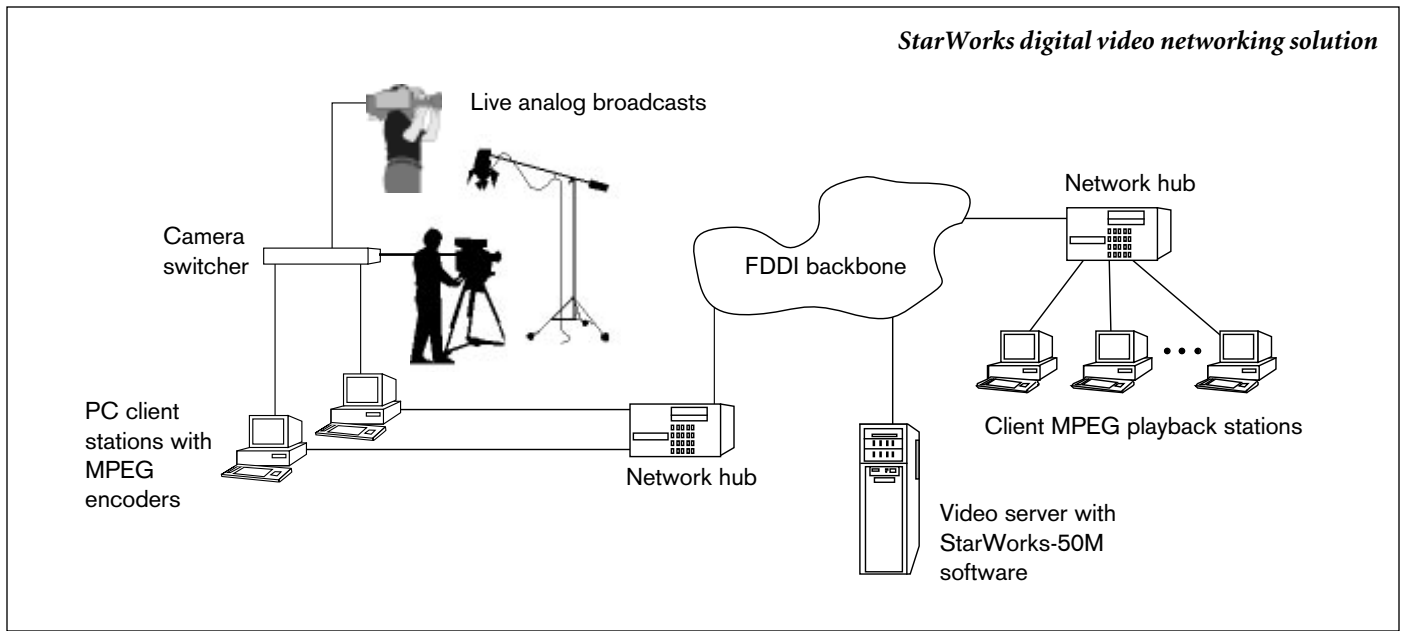
— Michael Bloomberg

applications that automatically control Bloomberg's re-broadcasting activities. This allows Bloomberg to use smaller technical teams and fewer anchor personnel to initially produce its online financial news segments, and record the segments digitally to the video servers for later broadcasting.

StarWorks software benefits Bloomberg's bottom line by allowing the company to broadcast 24 hours-a-day without the high cost of around-the-clock live programming. The StarWorks-50M digital video networking servers enable the same segments to be shared for simultaneous re-broadcasting across a variety of media, including multiple television or cable channels, satellite transmissions, and in-house editing of information for other broadcast productions. "For re-purposing broadcast content, digital video is the only way to go. Digital video production is far superior to analog approaches in its quality and ease of use. With digital video, editors can quickly cue into the appropriate areas of interest. In the analog environment, this entails constant rewinds and fast forwards, which degenerate the quality of the video tapes. Using the digital approach, we can easily and inexpensively re-use and re-



StarWorks digital video networking solution



package our live broadcast segments for a variety of broadcast productions,” says Fram.

Transmitting digital video over the LAN

Intel-based Pentium EISA PCs run the StarWorks-50M software. Live analog video feeds from multiple Sony 537 cameras are digitized by PCs using FutureTel MPEG encoders, and stored to the video servers running StarWorks software. The video is accessed from the servers by multiple PCs connected to an FDDI/10BaseT local area network (LAN). Video can then be transmitted either digitally or converted back to analog using MPEG decoders on PCs connected to the LAN.

Since Bloomberg TV News relies on 24 hours-a-day, 7 days-a-week broadcasting, it is imperative that its video be absolutely reliable. “The RAID arrays in the StarWorks video server solution provide fault-tolerance for single disk failures, allowing for online repair, resulting in little downtime in the event of a system failure. Plus, the StarWorks servers require fewer operators, allowing the automatic copying of new materials into the system while old material is being played out. It’s more reliable than tape, and it’s perfect for our operation that basically loops in new material every 15 minutes,” says Fram.

“Bloomberg wanted a networked video solution that was extensible and flexible, so that we could use off-the-shelf hard drives and peripherals, write our own sequencing software and integrate graphics, take advantage of multiple channels of coding,

and achieve playback ability,” says Fram. “It was the StarWorks solution that delivered what we were looking for.”

Bloomberg chose to augment its analog broadcasts with a networked digital video solution, believing that networked video is fundamental to delivering information more economically to its audiences. “The traditional analog approach to broadcasting is less cost-effective because it is extremely labor-intensive,” says Fram. “StarWorks has made it feasible for us to re-use and deliver high-quality, cost-effective programming around the clock, not only across a network, but also across the country — into the homes of our viewers.”

Environment at a Glance

Hardware: Intel-based Pentium/90 EISA server with 64 MB RAM, 14 4-GB hard disk drives, and StarLink video server adapter.

Network environment: Switched Ethernet LAN (to clients) with FDDI backbone.

Software: StarWorks-50M digital video networking software from Starlight Networks.

Video compression format: MPEG video.

Authoring tool: Visual C/Visual Basic and Windows-based application tools.