ZyGoCasting™
Streaming Video/Audio Over NYCWiN

ZyGoDigital has been providing NYC with a mobile means to stream quality video and audio over the NYC Wireless Network (NYCWiN) since 2008. The video/audio is broadcast by City workers using light-weight laptops, with little or no experience in videography and video compression techniques. The **ZyGo**Casting solution delivered to NYC is a cohesive integration of several of the company's products and technologies that allow for real-time compression and broadcast streaming of multiple incoming video/audio feeds from mobile systems. **ZyGo**Casting was developed for the Missile Defense Agency to provide similar video streaming over a world wide network and can be scaled up to handle large numbers of video streams over long distances while conserving precious bandwidth.
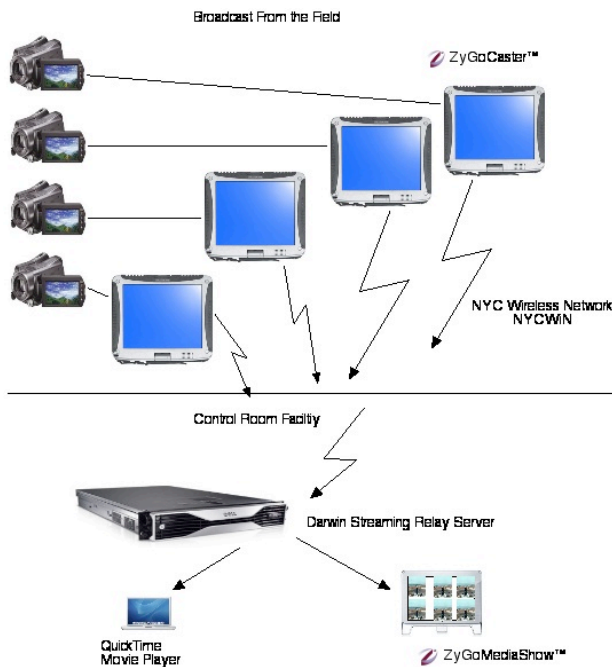
NYC uses Panasonic ToughBooks with **ZyGo**Caster installed at various locations in the city. These portable laptops acquire video feeds via Firewire input from ordinary camcorders, and compress the video in real time. **ZyGo**Caster moves the encoded video to a streaming server over the NYCWiN wireless network while saving an archived copy of the compressed video. Each server supports four simultaneous NTSC video outputs. Those four feeds are broadcast within the NYC City Hall production facility and relayed over the NYC Intranet for wide spread viewing.

ZyGoCaster is installed with service level capabilities so that it will start automatically when the computer is booted up, or after a crash. This allows the operators to continue shooting without worrying about software interaction.

Each video feed is streamed at approximately 100Kbps in order to maintain the best connection over the NYCWiN connections. **ZyGo**Video supports the low data rate needed while embedding additional data in XML format into each stream. The XML data can be used at the receiving end to identify the camera(s) in use, their location, etc. **ZyGo**Audio is used to maintain low bandwidth use (~ 28kbps) while providing exceptional sound quality.

The streams are received at a control room facility typical of a modern broadcast news operation. It is configured with multiple displays so that videos coming in from the field can be viewed with high quality commercial television sets. **ZyGo**MediaShow is utilized for viewing multiple video streams concurrently on the displays. **ZyGo**MediaShow monitors the video streams and will wait for a stream to reappear should there be a network glitch. The Apple QuickTime Player can also be used to view the videos, but will not automatically reconnect when network dropouts occur.

Reflecting servers may be deployed at several sites running the QuickTime Darwin Streaming Server providing future capacity for additional personnel to monitor incoming video for as the number of field units increase.