



VIDOVATION

Moving Video Forward

Live Webcasting & Video Streaming Made Easy with VidOstream™ Family



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How to do a Broadcast Quality Webcast:

In order to produce a Webcast for Internet (or corporate Intranet) distribution, you will need to answer the following:

- 1) How many viewers in the target audience and what bit-rates? (ie...1M, 768K, 300K, 100K)
This will determine two things:
 - a) The number of simultaneous streams
 - b) The required bandwidth on the server side.
- 2) How do you intend to host the live Webcast?
 - a) VidOvation Video Servers
 - b) Another hosting company capable of supporting the required bandwidth and has the necessary equipment
 - c) Have or are purchasing Streaming Servers from VidOvation and have your own dedicated bandwidth.
 - d) Already have Streaming Servers on your own Network.
- 3) Once you have determined how you will host the Webcast, we need to know how you will reach the hosting server(s)
 - a) Have or plan to have a high speed internet connection such as DSL, Cable Modem or other business class internet service with dedicated IP's at the webcast venue
 - b) Have a fast internet connection, at the webcast location, but no dedicated IP's
 - c) Only using a LAN system, ie...corporate in-house intranet.
- 4) Now that we know you can reach the server(s), we can turn to the actual equipment and facilities needed to produce the live streams. You will need a Webcaster or Streaming Video encoder, either by:
 - a) Renting a VidOstream system from VidOvation
 - b) Purchase or lease a Webcasting Encoder, such as the VidOstream.
 - c) Already have your own Webcasting Encoder, and just need hosting service.
- 5) The choice of Encoders is also determined by the format you intend to use:
 - a) The choices are:
 - a. Flash
 - b. Windows Media
 - c. MPEG4
 - d. Real Media.

Each has its pluses and minuses, as well as associated costs. The two most preferred are Flash a.k.a FLV or F4V and Windows Media, aka WMV

These are the most popular types of streaming video protocol. VidOvation is all tooled-up for Flash and WMV, with the appropriate servers and software. Many hosting services are also set-up for Flash and WMV.

MPEG-4 is becoming more popular by the day. The cost of these encoders are greater, but along with the cost comes a reduction in the required bandwidth. This format has many applications, including true broadcast quality over web, and point to point video streaming. Call for more details on MPEG4.

Flash, by Adobe, is the latest protocol, which is quickly gaining acceptance, as seen on YouTube and other video on-demand portals. Flash hosting is more expensive than WMV, since a specialized Flash server is required to relay the live streams. The big advantage of using Flash, is that it works "cross-platforms". In other words, both PC and MAC users can watch Flash more readily. For WMV, although there is a "plug-in" for MAC, some users are reluctant to download.

The next step is to determine what production video/audio equipment you need for the venue or location of the webcast:

VidOvation provides the following products for production:

- Broadcast and Industrial Quality Cameras
- Broadcast Quality Switchers, Keyers, and Logo Generators
- Audio Mixers and Processing Equipment
- Lighting, Mics, Mixers, and other productions peripherals
- Referrals for Production Crews
- Video Hosting Services for Live and on Demand Streaming
- Video Archiving Software for Video Asset Management
- Web Conferencing Software that combines Video and Slide Pushes





VidOstream™ To Go - Live Battery Powered Portable Webcasting with up to 2 Camera Production Switcher

Let's Start with the Cameras:

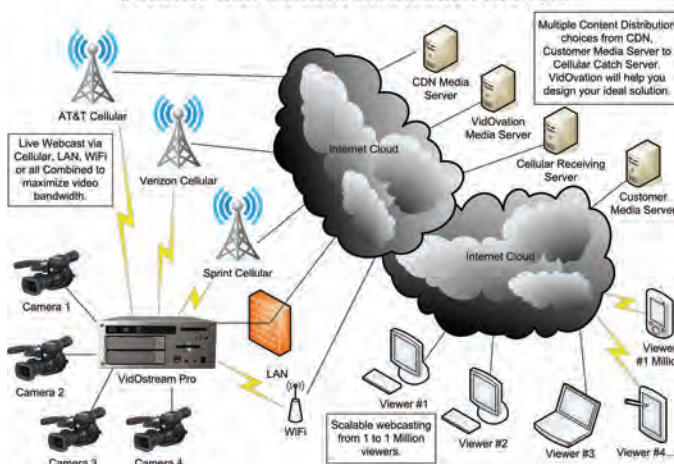
The video quality pushed out to the World Wide Web is not going to be better than the bandwidth used, so using \$30,000 broadcast quality cameras is overkill. However, material that will be streamed and simultaneously archived to a broadcast video format does require a broadcast quality, or very good industrial quality camera. VidOvation is a supplier of Ikegami, Sony, and Panasonic Cameras for Broadcast and Industrial systems. Low end consumer cameras, although not recommended, can be used as sources for live streaming but will not have the resolution of professional or industrial grade cameras. VidOvation can also supply "conference style cameras, such as the Canon VC-C4. For Webcasts that will be archived to DVcam, Betacam, Digital Betacam, or other high quality formats, we recommend starting with cameras in the higher range. For web conferencing or meeting events, where the quality is not critical, you can use the lower cost cameras.

Switchers for Multi-Camera Webcasts:

A Video Switcher is required, if you need to select from multiple video sources, such as cameras and character generators, to produce one video signal for the web stream. If you already have a video switcher that is compatible with the cameras and other video sources you are using, then you would only need to feed the composite, s-video, or SDI output of that switcher to our webcaster. If you don't have a switcher, we have a few very good choices for live Webcasting.

These switcher have full Frame-Synchronization, on all inputs, so you need not Gen-Lock the cameras, which is typical of older analog switchers.

VidOstream Webcasting & 4 Camera Production Switcher with Content Distribution Network



Audio Sources for the Webcast:

The most common audio source for live webcasting are microphones, CD player, and MP3 sources. With any number of microphones and other sources, you will need some form of Audio Mixer. The Mixer serves not only the functions of mixing various audio sources, but also brings the overall audio level up to "line level", which is required by the



VidOstream. The exception is our VidOstream Pro, which has one stereo audio input which can be set to microphone or line level. For webcasts where an auditorium is being used, or there is already a "house mixer", you may be able to simply pull a feed from the existing mixer. The line level of the VidOstream will accept anything from -10db to +4b for both audio inputs (left and right or channel 1, channel 2). The VidOstream can be set-up to take one (mono) audio signal and distribute the audio over the stereo pair, for the stream, or you can discreetly feed each channel. The inputs on the VidOstream Studio are XLR balanced audio, and the VidOstream Pro has un-balanced input. VidOvation has an assortment of audio mixers, if needed to work with either the VidOstream Studio or the VidOstream Pro systems.



VidOstream™ Pro - Live Webcasting and 4 Camera Production Switcher

Getting the Stream(s) on the Web:

The VidOstream Studio, VidOstream Pro-SD and VidOstream Pro-HD products, developed by VidOvation, provides the means to stream live video, audio, and graphics to viewers via the Internet or a private Intranet.

The VidOstream Studio is an integrated live streaming video encoder, built into a flight case, which is portable enough to ship from location to location, yet houses a very powerful Streaming Video Encoder System. This device is packaged with audio processing, BNC video Input, and the necessary software to produce WM9, MPEG4, and /or Real Encoding. The VidOstream Studio can take one video source or video from a switcher and produce up to three different bit-rate streams, each of which can then be uploaded to a server for distribution on the internet (or an intranet).

The VidOstream Pro-SD and VidOstream Pro-HD are the latest

VidOvation Encoder webcasting products. These streaming video appliances are compact systems designed for quick set-up of live webcasting, which can be integrated to other peripherals such as switchers and graphics generators. All three units are pre-configured for the customer's needs and pre-tested prior to shipping.

The output connections of the VidOstream Pro or the VidOstream Studio require a high-speed internet or intranet connection to be directed to the servers that will host the streams (see next paragraph). You will need a business class internet connection with an upload speed of at least 1.5Mbs with a dedicated IP addresses such as a cable modem, DSL or other teleco connection. The exception is, if you are using a corporate LAN to webcast, which has adequate bandwidth. You can stream very high quality video over LAN, as long as you are not conflicting with normal internet/intranet traffic.

Stream Live Video via LAN, WIFI, Satellite and Bonded Cellular

VidOvation has partnered with LiveU to integrate bonded cellular uplink technology in the VidOstream family of Live Webcasting Systems. LiveU's new bonded PC solution offers fast, reliable and high-quality mobile bonded transmission via the laptop, using up to four simultaneous Wi-Fi, LAN, cellular and satellite connections. With a user-friendly interface, the LU-Lite software is easy to use and highly flexible, supporting any camera input provided by your hardware.

Based on LiveU's fourth-generation bonded uplink technology, the LU-Lite software serves a wide variety of applications and workflows in the field, including file transfer and Store & Forward as well as editing and live interviews using the laptop webcam. The software also includes an advanced Compress & Forward feature for even faster content transfer.

LU-Lite connects to your existing LiveU receiving server and is incorporated into the LiveU ecosystem by LiveU's unified management platform, the LiveU Total Platform™, enabling control rooms to manage multiple video feeds from LiveU units operating in diverse locations for a smoother workflow configuration.



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LiveU Video Uplink with LAN, WIFI and Bonded Cellular Technology

Hosting the Live Streams

In order to reach your audience, Servers are employed which relay the streams generated by the VidOstream to the viewer's desktop. Video Servers, as we call them, are very high end Server computers, which are located on a wide bandwidth internet (or intranet) connection. VidOvation maintains such servers on the East and West Coasts of the US, with a bandwidth capacity of several hundred GB, and our capacity is enhanced by edge servers located through the world, servicing a multitude of users. The choices for end users are either to purchase servers, lease servers, or rent bandwidth on dedicated hosting servers provided by VidOvation.



VidOstream™ Studio - Webcasting and up to 10 Camera Production Switcher

Multiple Live Camera Sources:

With the VidOstream Studio, and VidOvation's multi-cam software (installed on the servers), you can have up to three dedicated cameras, streaming simultaneously, and allow the viewer to switch the video source on his/her computer. This technique does require that the servers be configured by VidOvation, and there are specific bandwidth requirements, depending on audience size. For this type of streaming video set-up, consult VidOvation for details and pricing.

Archiving Content

All VidOvation Webcaster and VidOstream Pro products have the capacity to record and store the live video webcast on their own hard drives. The encoded files can be archived locally and/or uploaded to hosting servers for Video-On-Demand (VOD). You may want to consider hosting the recorded content, by uploading to VidOvation's hosting servers or to your own servers. Thus, videos can be archived for later VOD playback and viewed by your audience. VidOvation also has two video archiving and retrieval programs, called Archive and Archive Lite, which allows content to be browsed, searched, and played.

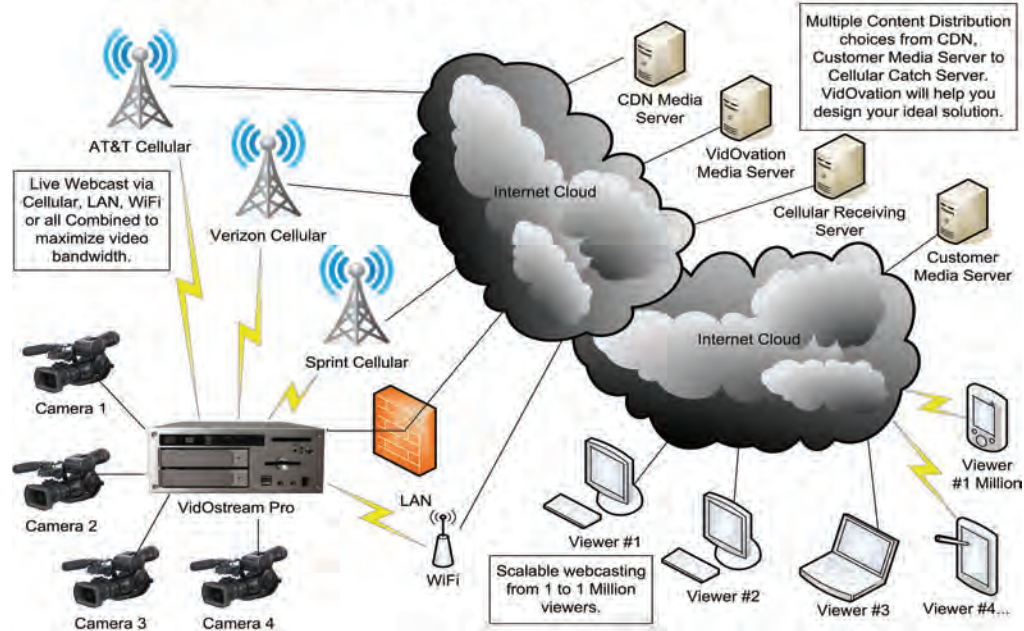


Adding Slides, Graphics and Presentations to my Webcast

The VidOstream family provides the ability to switch between multiple camera inputs. Other content such as presentations, images, photos, logos and pre-recorded video files, can be switched into the live stream. In some cases the user may want to push video of the speaker and his/her slide presentation simultaneously into two different windows or frames. For this capability, VidOvation can provide software that combines live video and an image slide show. An administrator running the webcast, can select slides to push out to everyone's desktop, while they simultaneously view the live video.

Please call VidOvation or click below to learn more about our VidOstream webcasting production switchers powered by LiveU (http://vidovation.com/Transport/Streaming_Video_webcasting) that provide live streaming from anywhere with 1 to 8 cameras. The VidOstream is available in Portable Battery Powered and Rack-mount configurations.

VidOstream Webcasting & 4 Camera Production Switcher with Content Distribution Network



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