



Digital Video Transport System

apps.internet2.edu/dvts

What is DVTS?

The Digital Video Transport System (DVTS) is a simple and inexpensive method of transmitting high-quality video and audio over the Internet. DVTS brings Internet video production within reach for a broad range of organizations that would not otherwise have the necessary money or know-how.

More broadly, DVTS is a step toward a world in which you will be able to tune your computer to a series of educational channels the same way you tune your television to satellite channels—send and receive high-quality video across the Internet with the same ease as sending and receiving email—expand the borders of the campus, reaching alumni, colleagues, students, and potential students through an institutional television channel—and do all this without any significant capital expenditure, by taking advantage of resources that currently exist on your campus.

How is DVTS being used?

DVTS usage has grown steadily across the advanced networking community. For example:

- The Florida State University Department of Dance uses DVTS for “performance conferencing”
- The New World Symphony uses DVTS for distance learning programs for musicians, such as remote master classes

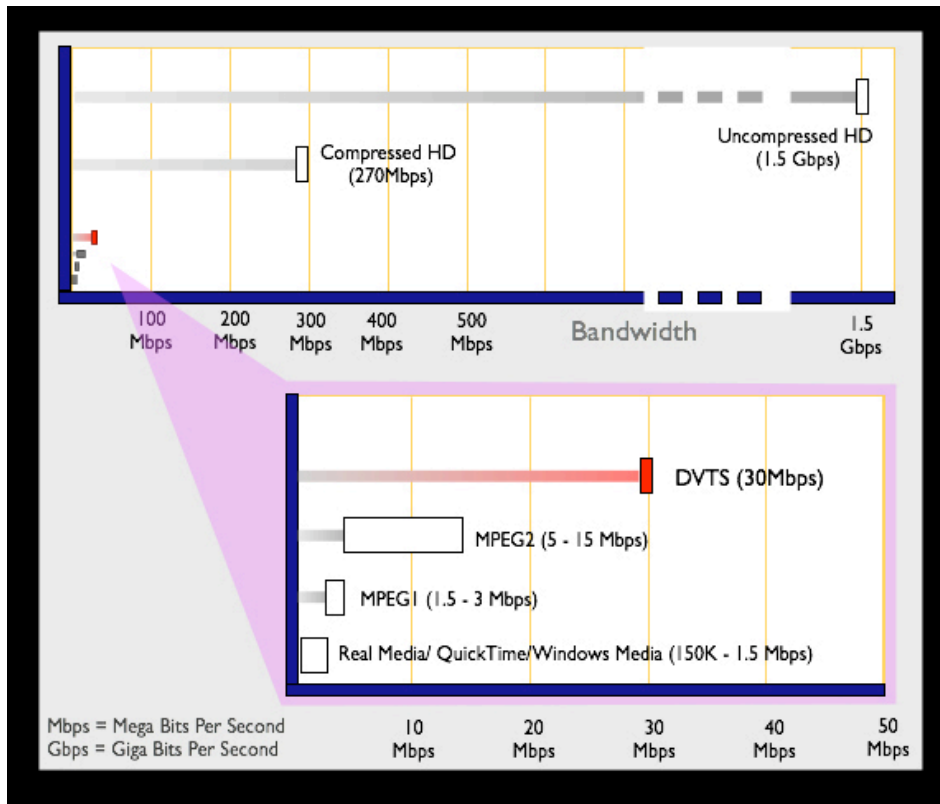
- The Center of Excellence for Remote and Medically Under Served Areas uses DVTS for distributed medical education
- Pathologists at the University of Pennsylvania Health System are experimenting with DVTS for telemicroscopy
- DVTS is also used for noteworthy one-time scientific or cultural events, such as a blooming Titan Arum and the Aqueous Myth performance

How do I get started with DVTS?

In order to get started using DVTS you'll need:

- A digital video camera with Firewire (IEEE1394) capability (e.g., HandiCam, DVCAM, DVCPro)
- Audio gear: some combination of microphones, speakers, headsets, an echo cancellation device (optional)
- A Firewire-capable computer with the DVTS software. Options include Windows XP, Linux, BSD, and Mac OS X computers, and the Comet appliance
- A DV receiver (DV Player, TV) that is Firewire capable, or an analog/digital converter(s) if using a non-Firewire-capable camera/receiver (optional if using the Windows XP version)

How Does DVTS Compare to other Internet2 Video Technologies?



The ResearchChannel Internet2 Working Group

The ResearchChannel Internet2 Working Group members have experience and expertise in advanced networking infrastructure. The group enables working partnerships with key technology innovators and brings together a substantial repository of high-quality video and high-definition content. The group actively develops, tests, experiments with and evolves the next generation of interactive and on demand applications.

The Working Group is open to all Internet2 members interested in multimedia applications. Current projects include DVTS, interactive HD, streaming applications at all bandwidths, and multicast technologies. You'll find the Working Group website here:

<http://www.researchchannel.org/tech/i2wg.asp>

DVTS Video and Audio Quality

The DVTS comes in two flavors, standard definition and high definition. Standard definition DVTS:

- Uses standard definition DV video (NTSC or PAL) with no additional compression applied
- Allows for low latency realtime communication
- Uses full quality 16 bit 48 kHz audio, ideal for music or applications where audio quality is a priority

High definition DVTS:

- Uses high definition HDV video (720p/1080i) with no additional compression applied
- Cannot be used for realtime communication due HDV camera encoding latency
- Is ideal for netcasting applications, as the resulting MPEG2 stream can be received by many video players such as the free Video Lan Client

Resources and Contact Information

Resources:

<http://apps.internet2.edu/dvts>

<http://www.sfc.wide.ad.jp/DVTS/>

<http://db.arts.usf.edu/dvguide/>

<http://www.researchchannel.org/tech/i2wg.asp>

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