Activity Report of Asia-Pacific Medical Network Project in Kyushu University Hospital : Vol.2

Shimizu, Shuji
Kyushu University Hospital

Nakashima, Naoki
Kyushu University Hospital

https://doi.org/10.15017/8302

出版情報：「超高速ネットワークを利用したアジア遠隔医療プロジェクト」 TEMDEC活動報告. 2, pp.1-95, 2006-04. AQUA事務局
バージョン：
権利関係：

4. New instruments and technical tips

Here, we add some technical tips for teleconference using “DVTS” environment.

(1) Simplest configuration (for desktop online meeting etc.)

- Although it is recommended to make configuration described in (1) or (2) to have a comfortable teleconference, it may be difficult to prepare all devices actually. But even in that case, a teleconference can be performed under very simple configuration as follows. The necessary items are shown as Table 4-1.

Table 4-1 Items required

Item
Digital Video Cam-coder
Personal Computer
Ethernet Cable
IEEE1394 Cable
DVTS software
Network, connected to the Internet
Microphone

- Technical tips relating to each of the above are shown in Table 4-2.

Table 4-2 Technical tips

Item	*Descriptions*
Digital Video Cam-coder	- In this simplest configuration, a DV camcoder built-in microphone and PC speaker get so close. This situation causes acoustic feedback (howling). It is recommendable to use an external microphone.
Personal Computer	- Global IP address must be assigned for the PC. - Because the PC has to handle bidirectional DVTS traffics by one machine, it should have not only high CPU power but also high graphics performance. That’s why it is not recommendable to use low performance PCs.

Item	*Descriptions*
Network	- DVTS software consumes about 35Mbits/sec bandwidth. - Traffic in excess of 35Mbits/sec must be transmitted throughout from a sending site to a receiving site. Any bottleneck on the way to the remote site prevents effective functioning of the DVTS software. - Transmission of such heavy traffic to the Internet requires network system configuration adjustment and international negotiation by network administrators.
Microphone	- It should have uni-directionality and low sensitivity to avoid acoustic feedback.

• Connection of devices is shown as Figure 4-1

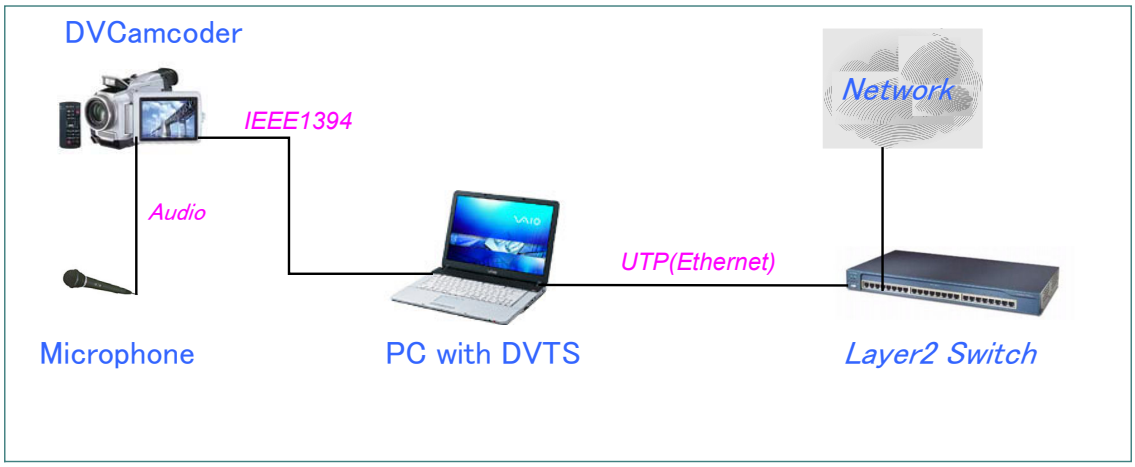

Figure 4-1 Simplest system configuration

(2) Another approach (for big conference etc.)

- In some conferences such as big academic conference, the voice quality should be kept very good and clear. As far as the configurations described in previous sections, the voice is transmitted as a DVTS audio channel. But actually, the quality of voice is sometimes not so good because of IP packet loss. When IP packets are lost so frequently, uncomfortable sound occurs and the attendees can't concentrate on the conference. To avoid this situation, there is another configuration option.

  The option is using some IP telephony software (for example, Skype). Recent IP telephony software is very useful and can transmit the voice very clearly. Therefore combination of DVTS software and telephony software in teleconference makes the conference very comfortable. The necessary items are shown as Table 4-3 in addition to the items described in section (1) or (2) or (3).

Table 4-3 Items required

Item	*Figure*	*Specifications*
Personal Computer		- Desktop or notebook type, running Microsoft Windows XP® - High-speed CPU (over 400MHz of clock speed) - Over 128MB RAM - Over 15MB HDD space - Fast Ethernet interface - Stereo audio input / output interface
IP telephony software (ex. Skype™)		- It is downloadable from http://www.skype.com/

- Connection of devices is shown as Figure 4-2.

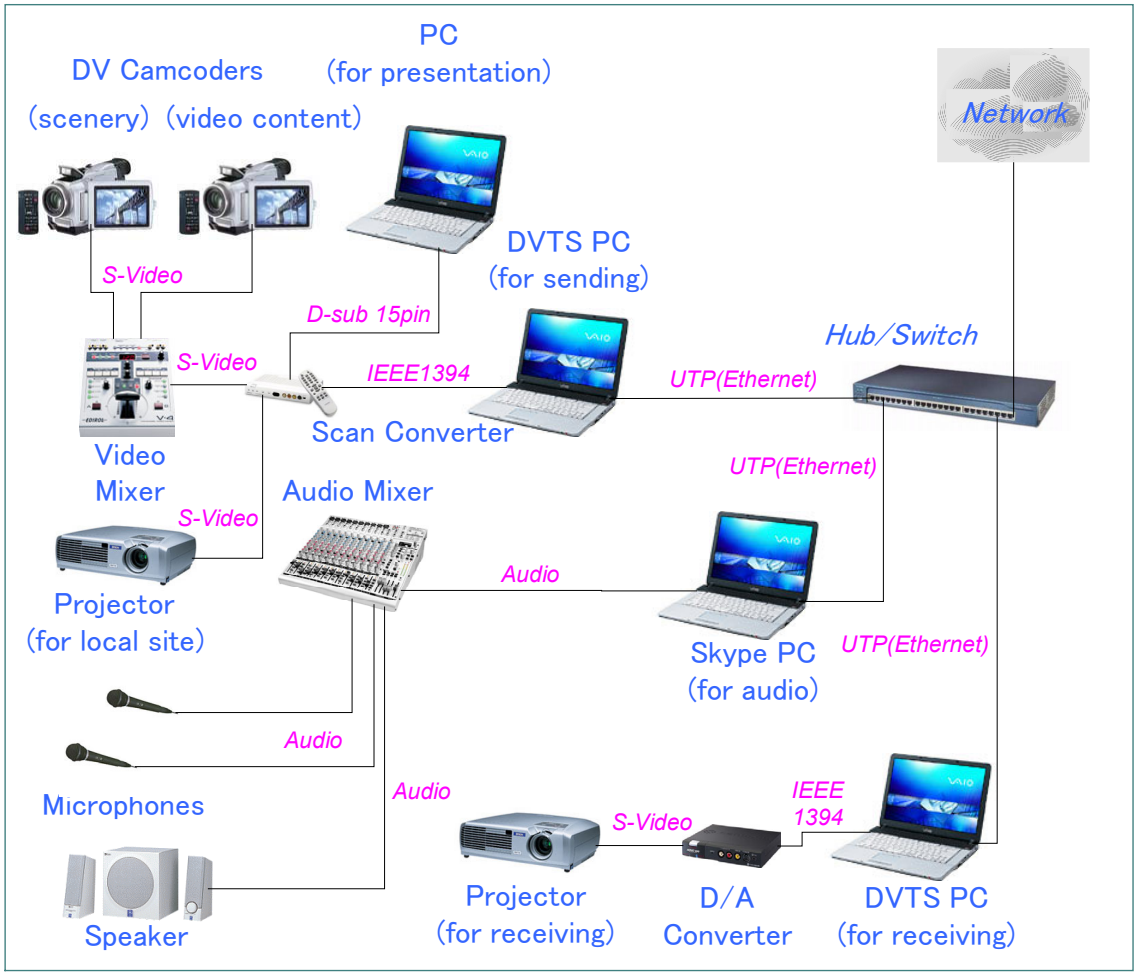

Figure 4-2 Configuration using IP telephony software