

February 25, 2002

Nippon Telegraph and Telephone Corporation  
SKY Perfect Communications Inc.

## **Joint Experiment Begins on a Video Distribution System Using Optical Fiber Cable**

In line with activities to create optical markets [\\*1](#) Nippon Telegraph and Telephone Corporation (hereafter NTT; Head Office: Chiyoda ward, Tokyo; President: Jun'ichiro Miyazu) and SKY Perfect Communications Inc.(hereafter SPTV; Head Office: Shibuya ward, Tokyo; President and CEO: Yasushi Hosoda) will carry out a joint experiment from March 2002 till January 2003, with a view to technically verifying an optical video distribution system.

Considering the sudden increase in the number of broadband users due to increased number of ADSL users over last year, the full-scaled deployment of high speed and broadband services over optical fiber is expected this year. In order to take the initiative in the world, NTT and SPTV will conduct a technical experiment on a transmission system that will attempt to fully utilize the transmission performance of the optical fiber.

The use of the high speed Internet (100 Mbps-) using optical fiber is spreading to the general public, especially modern apartment dwellings equipped with broadband access. Using this high speed Internet, a user environment such as viewing and hearing rich contents of streaming video and music distribution, and bi-directional communication through video chatting is easily realized. In this joint experiment, B-PON[\\*2](#) technology will be applied for the first time in an access network. Through the use of several different wavelengths on one optical fiber, the one-way/multi-channel distribution of a high quality digital video (MPEG-2)[\\*3](#), while also supporting Internet access, will be realized.

The B-PON technology, which forms the basis of this experiment, was developed by NTT Laboratory. It is realized by one core optical fiber to offer high speed Internet access and high quality digital video distribution, by multiplexing of 3-wavelengths. The contents distributed by this experiment will be prepared by SPTV, which has expertise on digital satellite broadcasting.

Multi-channels (up to 500 SDTV channels) of digital video will be distributed without delay by bandwidth guarantees, although it is not possible by the conventional Internet. Moreover, since the video contents are transmitted without requiring IP processing, there will be no need to take new measures to prevent illegal copying.

In this joint experiment, NTT will provide the technical expertise on optical video distribution, as well as the communication equipment and its operation. SPTV will provide the video transmitting equipment and its operation, in addition to the contents. The actual experiment site planned is a modern apartment in Shinjuku ward, Tokyo, that already has high speed Internet connections; the residents will be invited to act as service monitors. Each monitor will be able to view and hear contents of different genre during the period of the experiment.

The results of this joint experiment and the experiences gained will be reflected to our

business strategy and service development toward large-scale deployment of optical fiber in the future.

**(Footnotes)**

**\*1 Optical market creation activity**

NTT announced, in November 2000, its intention to exploit optical service demands and to create new markets. By tying up with business partners, NTT offers to general customers for their evaluation new global information sharing service that makes use of the unique optical network benefits such as "high speed and broadband", "bi-directional", "multiple media fusion".

<http://www.ntt.co.jp/news/news00e/0011/001128.html>

**\*2 B-PON (Broadband Passive Optical Network)**

B-PON is an optical access system which provides a 100Mbps (maximum) broadband multi-media service at low cost. This system realizes fair network use through bandwidth control; the transmit bandwidth of a single fiber is shared by up to 32 users. Moreover, a multi-channel video distribution service is provided at the same time by multiple optical wavelengths.

**\*3 MPEG-2 (Moving Picture Experts Group)**

An extremely popular digital video coding/decoding protocol. MPEG-2 can handle high quality videos including SDTV and HDTV.

(Accompanying paper) [Configuration of the joint experiment system](#)

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