ITU-Telecommunication Standardization Sector
Study Group 15
Experts Group for Video Coding and Systems
in ATM and Other Network Environments
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SOURCE : Japan
TITLE : **Multimedia multiplex/AAL for broadcasting including CATV**
PURPOSE : Discussion

1. Introduction

Broadcasting including CATV service is one of the possible applications of the H.32X terminal. In this contribution, multimedia(program) multiplex method and AAL suitable for such a service is studied.

2. Program multiplex and network configuration

In broadcasting applications, program multiplexing and de-multiplexing will be performed in several stages between the headend(CATV center) and the user terminal. The mux/demux scenario may vary as the network configuration is optimized according to the network topology, transmission media (coaxial cable/pair cable/optical fiber), bandwidth of the media, modulation method (analog/digital), etc. Providing that B-ISDN is included in the network configuration, the following three types of network configurations are considered in this study as the prototypical networks (see Figure 1 and 2).

- Network configuration 1
  Information provider => CATV center : B-ISDN
  CATV center => Subscriber : Conventional CATV network (analog modulation)
- Network configuration 2
  Information provider => CATV center : B-ISDN
  CATV center => Subscriber : Conventional CATV network (digital modulation)
- Network configuration 3
  Information provider => CATV center : B-ISDN
  CATV center => Subscriber : B-ISDN

Focusing on subscriber terminals and assuming that TS-DEMUX is included in H.32X, the number of programs within 1 TS (together with input bitrate) is expected to vary so much depends on applications. Typical situations expected from Figure 1 and 2 are as follows.

- 1 program/TS (ex. Terminal 3)
- Up to several tens of program/TS (ex. Terminal 2 and 4 when 155Mb/s UNI is used)
- More than 100 programs/TS (ex. Terminal 4 with 622Mb/s UNI)

However, this parameter will greatly affect hardware complexity and some classification may be required to define the TS-DEMUX capability in H.32X taking the other mux/demux stages in the system into account.

3. AAL

As for program transmission over B-ISDN, TS packets mapped on AAL seems to be a preferable solution considering the program multiplexing capability and compatibility with error

protection in the upper layer. There have been some proposals for the mapping method (see AVC-612). For the moment, however, we have not come to any conclusion which method should be chosen.

4. Conclusion

Program multiplex method and AAL for broadcasting type service is studied as a possible application of H.32X. As a result of the study, TS packets mapped on some AAL found to be a possible solution. The concrete mapping method and program mux/demux scenario need further study.

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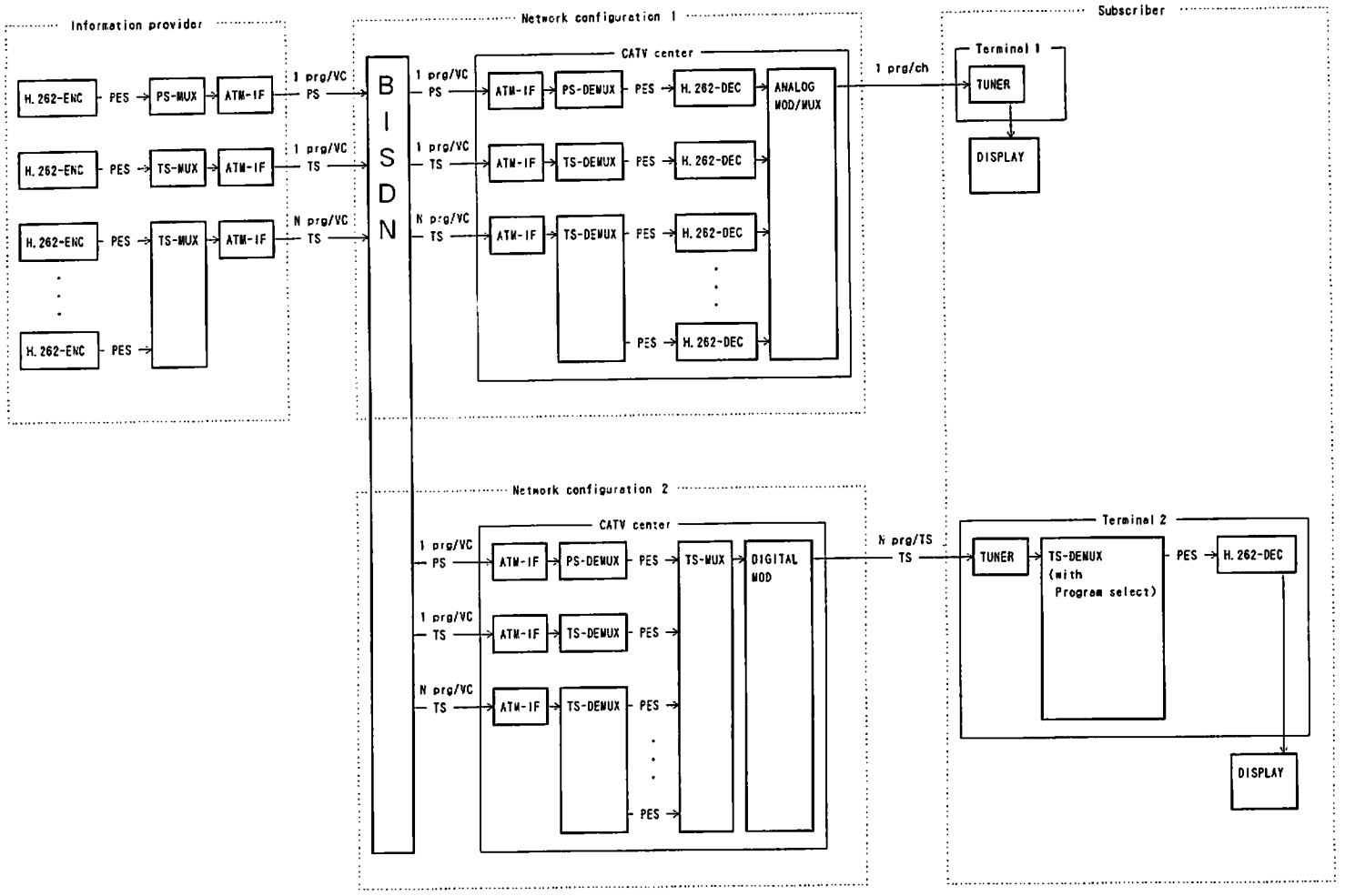

Figure1 : B-ISDN/CATV Hybrid network configuration

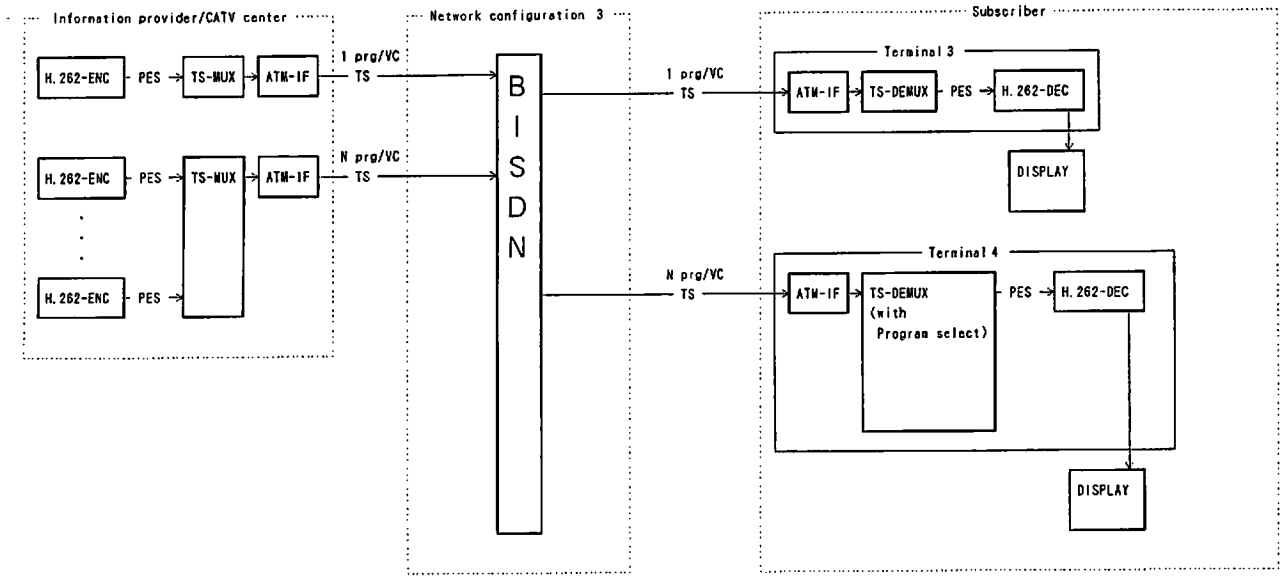

Figure2 : Full B-ISDN configuration