CCITT SGXV
Working Party XV/1
Experts Group for ATM Video Coding

Document AVC-91
1 August 1991

SOURCE : Japan
TITLE : Multimedia multiplex method
(Consideration on interworking between H.320 and H.32x)
PURPOSE : Discussion

1. Introduction

We provisionally agreed to use the VCI method as a reference of our future work which separates a multimedia connection into several virtual channels. However how to interwork between H.32x and H.320 terminals is not clear[1]. This contribution discusses what multimedia multiplex method is suitable for the connection between H.32x and H.320 terminals.

2. Several cases for interworking

Two cases of interworking can be considered between H.32x and H.320 terminals. (Fig.1)

case 1 : Interworking is done by a network gateway, whose functions higher than network layer may be provided outside the network.

case 2 : Interworking is done by a network adapter.

In both cases, H.32x terminal acts as H.320 terminal.

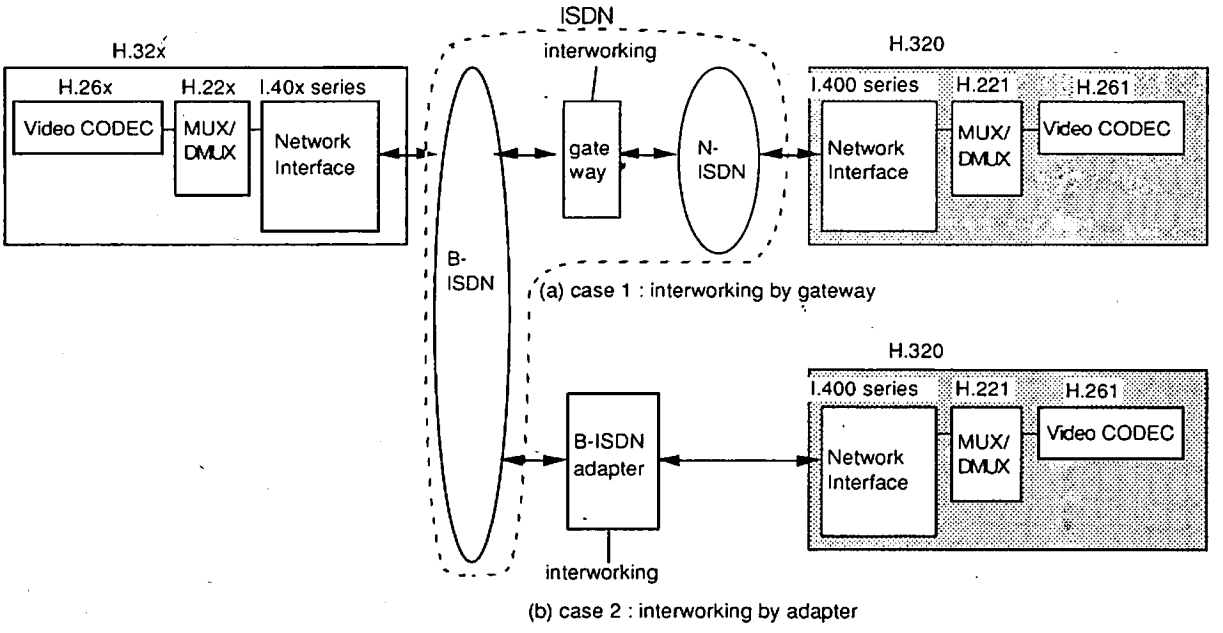


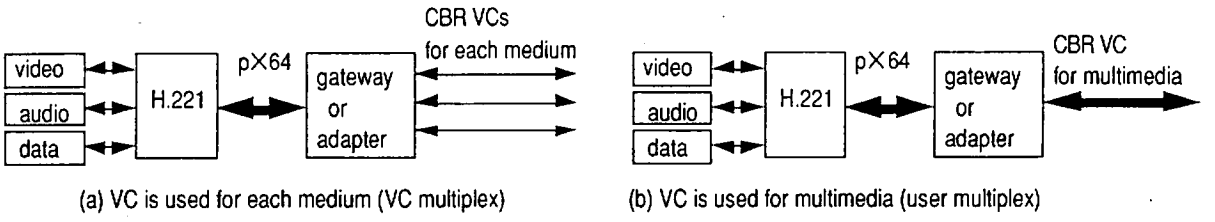
Fig. 1 Two cases of interworking between H.32x and H.320 terminals

3. Consideration on multimedia multiplex

If the VCI method is used (Fig.2 (a)) when the interworking between H.32x and H.320 is required, the following problems may arise ;

- Usually the bitrate for each medium is smaller than 64kbps in H.320. Therefore it needs a long delay to assemble a cell or it needs low efficiency caused by stuffing bytes.
- The signaling is used to change the bitrate for each medium in H.32x terminal. However this change may be not so fast as the change by BAS code in H.320 terminal.
- It is doubtful that a gateway provides multimedia multiplex conversion function.

On the other hand, if user multiplex is used (Fig.2 (b)) and a gateway/an adapter only converts p × 64 in N-ISDN to CBR VC in B-ISDN, we may not suffer from these problems.

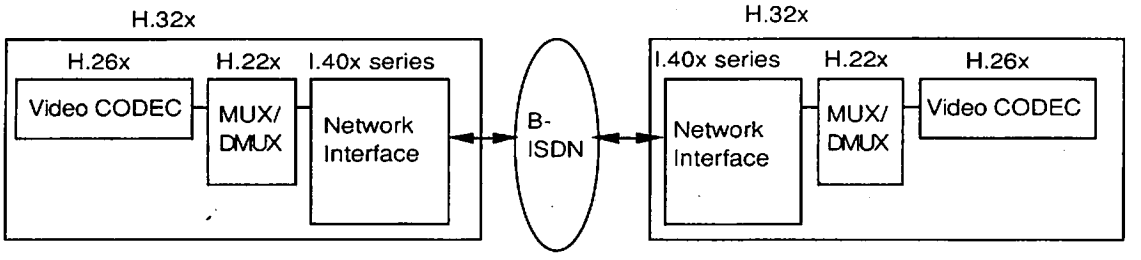


(a) VC is used for each medium (VC multiplex)

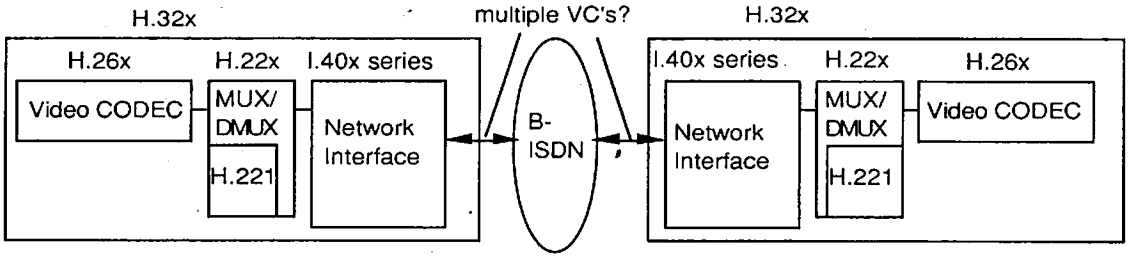
(b) VC is used for multimedia (user multiplex)

Fig. 2 Conversion function at gateway/adapter

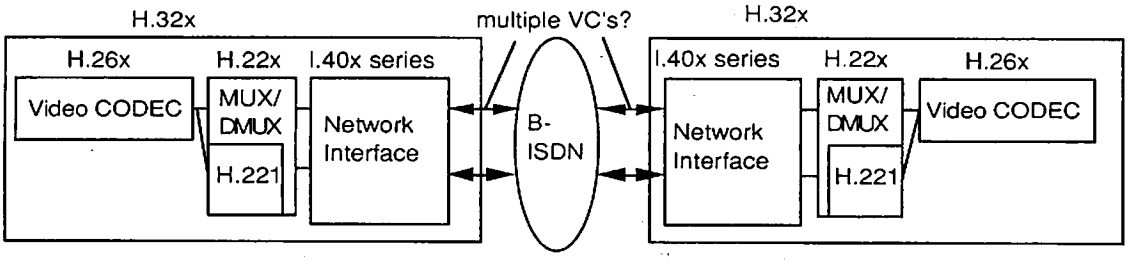
Therefore at least when interworking between H.32x and H.320 terminals is required, user multiplex is one of the suitable method for multimedia multiplex even in B-ISDN environment.How to achieve multimedia multiplex for connection between two H.32x terminals is for further study(Fig.3).



(a) case 1 : H.22x is similar to H.221 (user multiplex)



(b) case 2 : H.22x includes H.221 function (switchable)
This function is not used for the connection between two H.32x terminals



(c) case 3 : H.22x includes H.221 function (embedded)
This function is used for the basic layer connection

Fig. 3 Multimedia connection between two H.32x terminals

4. Conclusion

At least when interworking between H.32x and H.320 terminals is required, there are many problems for using the VCI method. In that situation, user multiplex is one of the most suitable method for multimedia multiplex even in B-ISDN environment.

Reference

(1) CCITT SG XV WP/1 experts group for ATM video coding : "Report of the second meeting of the experts group for ATM video coding in Paris," AVC-65R § 4.8, May 1991