

SOURCE: Australia

TITLE: Remote Video Surveillance as a B-ISDN Service

PURPOSE: Proposal

Abstract

It is proposed that remote video surveillance be added to the list of relevant applications being considered by the Experts Group, as the characteristics of this service are not entirely covered by other service types.

1. Introduction

Applications of video surveillance include security, traffic control, financial transaction monitoring, crowd control, and industrial process monitoring. The ability to perform such surveillance remotely has in the past been limited by the high cost of broadband telecommunications links. However, the B-ISDN has the potential to provide the required bandwidth at lower cost and with greater flexibility, and hence greatly boost the use of this service.

Accordingly, video surveillance is included in Table 1 (Possible broadband services in ISDN) of CCITT Recommendation I.211. However, it does not appear in Table 1 (Matrix of applications and technical issues) of the Experts Group's Draft Status Report on ATM Video Coding Standardization (TD-3 at the Paris Meeting, May 1991).

2. Characteristics

According to the format of Table 1 in TD-3:

Application	Network	Storage media	Resolution	Quality objective	Delay
Video surveillance	N, B-ISDN, LAN —	-----	CIF ~ CCIR 601	3 ~ 4.5	Mid

In addition, the following distinctive characteristics of video surveillance should be noted:

- smooth rendition of motion is often less important than ensuring a high coding quality for individual frames, to allow identification of objects in still images after archiving and retrieval.
- for the same reason, it is important that picture artefacts caused by transmission errors are removed very rapidly, rather than by gradual dissipation.
- monochrome operation is often sufficient.
- frame update rates may vary widely, from one frame every few seconds to full TV rate.
- cameras are often panned, tilted or zoomed while on-line.
- lighting conditions may vary widely for outdoor surveillance.

3. Conclusion

Video surveillance has the potential to be an important service on the B-ISDN, and its characteristics are not entirely covered by other service categories. It is therefore proposed that the Status Report be amended to include video surveillance to ensure that this application is not overlooked in the Experts Group's work on ATM video coding.