

Source: Telecom Australia  
Title: H.261 backward compatibility  
Status: Proposal

## Background

A topic of interest to the ATM Experts Group is the means by which backward compatibility with H.261 terminals should be provided.

Telecom Australia considers that switchable/simulcast interworking is the ONLY practical solution to the backward compatibility/interworking problem. There are several compelling reasons why this is the preferred solution over a spatial scalable approach.

## Points of comparison between switchable/simulcast and spatial scalable interworking with H.261.

1. To be truly compatible with H.320 terminals, the signal must look like an H.320 bitstream. If this is attempted in a layered solution, with H.261/H.320 on the lowest layer, then this presents constraints for the transmission of the upper layer in terms synchronising, and possibly structuring, the information. Additional delays may be introduced. The implications of the frame-based structure of an H.221 bitstream on upper layer transmission have not been studied.
2. In the long term it may be advantageous to evolve towards ATM/B-ISDN only operation. Even in the short term it seems likely that some organisations or groups may only require ATM/B-ISDN operation. That is, H.261 interworking may not always be required. We do not want to be constrained to always provide a lower layer. To attempt to do so would only encourage proprietary solutions.
3. H.26X is expected to cover a wide range of applications, beyond videotelephony and videoconferencing. We cannot constrain all video sources to provide an H.261/H.320 lower layer.
4. H.261/H.320 operates on fixed resolutions, whereas H.26X/H.32X is envisaged to operate on a variety of platforms including windowed displays of varying resolution, pixel shape and aspect ratio.
5. Spatial scalability is inherently inefficient, offering little (and, in some cases, no) advantage over simulcast delivery.
6. Transmission cost will be important on a public network like B-ISDN, and so the relative bitrates of a single layer and two-layer means of delivering a given (upper) resolution/quality picture will be important to its viability.

## Conclusion

We propose that the ATM Video Coding Experts Group adopt a switchable/simulcast strategy to provide interworking between H.32X and H.320 terminals in those situations or at those times when this is required.