The Internet

All schools now have access to the World Wide Web via the Internet. This technology uses a common method of transmitting and receiving data called IP or Internet Protocol standard to ensure information passes flawlessly between networks. The success of the WWW could not have been achieved without this single ubiquitous standard. A disadvantage of IP transmission is that because all data traffic e.g. e-mails, WWW downloads or videoconferencing has to share the same pipes, they all have to compete for the available space or bandwidth. With e-mails and WWW downloads, this may cause delays between sending and receiving data dependant on the traffic, but all of the transmitted data should arrive eventually at its destination although some parts of the data may have taken different routes before finishing its journey. Videoconferencing is not so tolerant. Videoconferencing transmits digitised sound and vision signals and both are very intolerant of missing or delayed parts of the data.

When a network is congested and some parts of the data are routed via an alternative but longer path, the recovered sound or vision can be impaired. The degradation in quality may vary from a missing speech syllable or image fuzziness to completely incoherent speech and an unrecognisable image. IP transmissions do not normally guarantee quality of service at present. However, there are techniques being used more frequently by the telecommunications providers that prioritise vision and sound signals so that they can pass relatively unscathed.