

IPTV* PROJECT

*Internet Protocol Television



IPTV is a method of sending and viewing television or video content that is distributed over an IP network being the same as that of people use to access the world wide web (www) and to send and receive email.



IPTV technology enables an organisations IP network to carry much more than just television or radio. Using an IPTV network you can actually distribute digital and satellite TV/radio, videos, DVD's, digital signage, information, web content and video on demand. All of this content is called multi-media and can be used on standard and high definition TV's, various kinds of AV equipments and PC's if required. This is achieved by using the appropriate access/set top/gateway switches.



Our project was to strip out all existing networks, design, supply and install a state of the art IPTV system with back-up and fail proof connection with all of the above capabilities.

The installation comprised of

- new air conditioned technical room containing network servers, head end and distribution equipment required to run the IPTV network
- Coax, cat 5E and cat 6 cabling installed in LSOH (low smoke zero halogen) containment.
- Multi mode fibre optic LSOH cable
- 3 satellite dishes, 2No for non UK channel, eg Arabic and European, and the 3rd being the Sky dish.

- Digital terrestrial aerial for free to view channels (DVB – digital video broadcasting)
- FM/DAB – Frequency modulated/digital audio broadcasting.
- UPS (uninterruptible power supply)

In each of the 54 rooms we have installed a network cat 5E point which allows access to the content stored on the server (VOD – video on demand) and the IPTV system. A gateway/set top box is connected to the socket and in turn to the monitor which allows control via a remote controller determining the content to view.

The fibre optic spine was installed from the basement technical room to the riser distribution points with an additional fibre optic cable between the two riser distribution points to allow for flexibility of the system. These were connected to a fibre switch which converts the content and allows the cat 5E cabling from the rooms to interconnect carrying the content to the monitor.

Fibre optics was used because of it's non conductive properties, flexibility, resilience, speed of transmission, and scope for expansion in the future.

The signal is carried from the roof top dishes to the basement technical room on digital coaxial cable which is terminated at the satellite head end. This is connected to an STB (set top box converter) which converts the digital aerial signal to streaming MPEG format. This is then connected to 2 MMC (multimedia)

CASE STUDY



servers... 1 for production and 1 as a back up. The fibres are terminated into 2 HP switches to which the servers are connected. The other end of the fibres are connected to an additional 2 HP switches to which the Cat5e cabling from the rooms is connected to via a patch panel and individual patch cables. There is also a UPS in the technical room to which all the switches, servers etc are connected to in the event of a power failure.

During the installation, there were many challenges in co-ordinating all the particular services in their individual specific containment to fit and be concealed in the confined spaces

available. These works included asbestos removal with clean certificates, diamond drilling to provide the best possible routes for cables and containment, ensuring all services are accessible for future maintenance and upgrading if necessary, and ensuring the highest class of finishes to all areas.

Our client has benefited immensely as with our installation and expertise, there will be no interrupted viewing at any time and instant access to all the required networks/channels are instantaneous. In addition, the system is backed up and has room for future expansion.