

# Retrofit to IP using existing cable

**Choice, cost savings, speed of deployment and convenience: That is what the reuse of existing cable can offer the end-user if they want to migrate their existing analogue based surveillance, access control or intercom system, to IP.**

## **Reuse of existing cable should be considered because:**

- There is no need to purchase/pull new cable; leveraging the existing cable investment
- Because there is less or no cable to install, the facility can remain operational
- Cost savings using existing cable can be used towards, more and better cameras
- Vertical applications like lifts, tunnels, mines, subways and train stations have 'closed cable' bundles – so typically they need to reuse the cable they already have.
- It is less expensive than a fibre based alternative
- There is no need to remove and recycle old cable



## **Lack of choice**

For decades, tens of millions of analogue-based CCTV cameras have been connected to recording & control equipment via coaxial cable. The fact is that about 80% of analogue cameras installed via coax have cable runs greater than the defacto Ethernet standard of 100m, usually in the range of 150-200m on average.

Currently, too many customers in the security market are being told that the only way to deploy an IP video surveillance network is to remove all the existing coax cable and 'flood wire' their facility

with Cat 5/6 structured cabling. But what about those long, formerly analogue camera runs?

Again, the industry is telling customers to use UTP Cat 5/6 and 'simply' repeat the signal somewhere before the 100m interval. And by the way, at the IDF mid-span point (if you can find one), also supply the cable extender/repeater with yet to be installed mains power. That can be expensive.

## A viable alternative

An alternative choice to the time consuming and costly scenario described above is to utilise the existing cable and employ a hybrid IP transmission system. There are IP migration transmission systems called 'IP over any cable' technology on the market today that allow installers/end-users to take advantage of extended PoE power & Ethernet distances using legacy cable.

Basically, this hybrid technology allows whatever cable is in existence to be reused, so long as it is in reasonable condition. So, whether it is coax, UTP, 2-wire or some other copper cable, twisted or untwisted, it can be used for IP migration. This robust IP migration technology allows installers to approach their customers with a whole new tool kit of migration choices and associated benefits.

## 'IP over any cable' technology features & benefits

- Allows the use of any type of cable, at almost any distance and via any topology
- Overcomes the Ethernet data Extender/Repeater 100m distance limitation
- 50 Watts of PoE power for IP devices (cameras, intercom, access control, etc) at extended distances
- Use one cable to supply IP and PoE connectivity to multiple IP cameras/devices
- Useful system diagnostics and monitoring

## Flexibility and cost savings

The flexibility of these 'IP over any cable' IP migration solutions provides cost-effective, simple and seamless migration that avoids 'cherry picker flood-wire' installations.

If one were to install an entirely new Ethernet network infrastructure, the project would typically be installed in one complete, disruptive and expensive operation.

The sheer size of the project would force a comparatively expensive and operationally disruptive network retrofit on the end-user. In the case of a hospital for example, there is rarely the luxury of displacing patients, or shutting down large areas of the facility.

For a private hospital, shut downs mean a loss of revenue and a reduction in quality of care. So, when such a hospital is looking to retrofit, the IP hybrid solution can make a lot of sense.



## Variety of cables and topologies

Native to most building cabling infrastructures is the fact that there have been, over time, hosts of cabling types and sizes installed. One might think that this is just awkward, others may think of it as a resource to be capitalised on. 'IP over any cable' technology allows multipoint network operation using any star or daisy-chained cabling topologies and with any combination therein.

We know that conventional Ethernet has a point-to-point distance limitation via UTP of 100m. For the installer, if the transmission distance is longer, that typically means IDF closets need to be in place in odd locations throughout the facility, in order to create a proper data repeater/power supply point. This usually involves the installation of a lockable closet or enclosure.

Typically, analogue cameras are deployed with transmission distances in excess of 150m. So, with a 100m Ethernet distance limitation, attaining that 150m distance would require at least one newly installed IDF with accompanying Ethernet repeaters. And don't forget that you have to supply power at the IDF/enclosure. This means added expense for the IDF/enclosure, the power being supplied, the repeater, labour, etc.