

Lane Rental Industry Publication

CCTV Video Sharing



EVERY JOURNEY MATTERS

Inter-Agency CCTV Video Sharing

Introduction

Since its introduction in the early 1980s, CCTV equipment has been deployed on the roadside without an overarching strategic plan. As a result, cameras have been deployed to meet a variety of demands such as crime prevention, traffic management, traffic enforcement, civil emergencies and infrastructure support; with little thought given to how an individual camera could be used for multiple purposes.

Transport for London (TfL) have agreements with most London Boroughs to share cameras, and primarily access Borough owned CCTV for the purposes of managing congestion, including the traffic impact of street works and monitoring traffic signal timings. Access to TfL owned cameras, is reciprocated to the London Boroughs.



However, there are some locations where cameras exist that are owned and operated by different organisations who are responsible for different assets in the same vicinity, as shown in the image above. Ideally one camera should be located here that both authorities can share access.

In London the Metropolitan Police, Highways England and TfL control rooms share CCTV images using the TeleVision Network Protocol (TVNP), which was developed by TfL over 20 years ago. This technology is analogue based and is now outdated and becoming obsolete as digital CCTV equipment becomes the standard – meaning that camera sharing opportunities will reduce.

Sharing CCTV has the obvious benefit of reducing operational and maintenance costs to both organisations. A common solution is therefore required to maintain access going forward.

The Project

The project was to develop a digital CCTV 'sharing' interface protocol and prove the concept to enable the continuation of sharing CCTV video for digital systems. It was specified and led by multiple agencies to ensure that it had full support from the CCTV community. The solution was jointly funded by Lane Rental, Highways England and the Metropolitan Police.



Outcomes

The deliverables for this project were to produce a specification document detailing the Digital Interface, plus at least two CCTV systems sharing cameras using the new Interface.

A draft specification was issued for comments, with the third and final issue released six months later. This was widely circulated to both CCTV Users and within the supplier chain, receiving positive feedback. The protocol was named the Digital Video Network Protocol (DVNP).

A successful Industry day was subsequently held to engage the industry and to increase awareness of the specification. It was attended by many leading companies supplying CCTV to the market place, as well as end users.

The Open Network Video Interface Forum (ONVIF) is a global and open industry forum with the goal of facilitating the development and use of global open standards for the interface of physical IP-based security products. When created in 2008 its mission was to develop common standards for how digital IP products within the CCTV Industry can communicate with each other. Representatives of the DVNP group have attended several ONVIF technical working group meetings with the aim of promoting DVNP within ONVIF for it to become a part of the worldwide ONVIF standard. This work is ongoing.

By early 2018 two organisations, TfL and Highways England, plan to share CCTV Cameras using the new DVNP Protocol developed by this project.

Conclusion

The project proved to be a success, with its main outcome, the DVNP specification, being delivered ahead of schedule, along with a proof of concept system.

This digital CCTV interface specification, DVNP, has now been issued to encourage UK-Wide adoption of the specification as the enabler for direct digital system-to-system connections.

The specification document will be a live document and updated when required. With the possibility of it being incorporated by ONVIF, it is hoped that DVNP will become the universal worldwide standard for sharing CCTV digital images. With the CCTV industry now offering digital technology as standard, DVNP is currently the only specification available to define a method of sharing system-to-system video images plus camera control of third party owned cameras.



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