

REFERENCE CASE

Project: Video Surveillance

Customer: Unique (Airport Zurich) AG

Solution: New Video Surveillance System



VIDEO SURVEILLANCE

NEW CCTV SYSTEM IMPROVES OPERATION AND SECURITY AT ZURICH AIRPORT

SINCE MANY YEARS, VIDEO SURVEILLANCE AT THE AIRPORT ZURICH IS AN ABSOLUTE MUST.

THE ANTIQUATED VIDEO SURVEILLANCE IS BEING CONTINUOUSLY SUBSTITUED BY THE NEW ASCOM SOLUTION

THE CUSTOMER'S REQUIREMENTS

When Unique put their airside centre CCTV system out to tender on 4th February 2004 they were looking for a general contractor who would develop a solution concept, supply the hard and software and implement the design. In addition the general contractor had to be able to supply the know-how and training for the airport's IT teams and provide support for the operation during the transitional period.

The new system was required because of a variety of problems with the existing CCTV system. For example there were actually a variety of separate systems which prevented the free exchange of pictures and made maintenance and further expansion difficult or impossible.

The customer needed several decentralised monitoring stations which could operate simultaneously and could cater for users with different needs. And these workstations may also need to be moved around without incurring great expense. The video system had to be flexible to adapt to changing organisational structures.

ASCOM'S SOLUTION

Ascom was appointed general contractor for the Unique project and recommended Visiowave hardware which supports the complex requirements of distributed IP-based video networks. Visiowave is also able to retain the advantages of analogue operation. The best possible combination of picture quality and latency was achieved by using the Wavelet compression process.

The core of the system is the secure transmission of video pictures via the existing network but what the user actually sees is the video management system, or rather its visualising station. For this part of the project Ascom used products from AVLogic. The video management system has already proved itself in airports in Toronto and Ottawa (where video codecs from Visiowave are also employed alongside other components).

The visualising stations' graphical user interfaces are constructed so that the video system can be operated intuitively without extensive training.

Each user can be allocated individual access rights to live pictures (cameras) or to recorded footage. When there is an alarm video transmissions can be switched to predetermined users. And the user has the advantage of being able to work with dedicated keyboards or joysticks as he would with an analogue system.

ADVANTAGES OF THE NEW SOLUTION AT A GLANCE

- The existing IP network is used, avoiding the enormous cost of an additional network.
- Owing to the digitisation of the video signals and the network linkage, it is theoretically possible that every airport workstation which has a network connection can deliver pictures from the cameras.
- Fast and economic adaptation to changes in the environment.
- In a complex area like an airport there are very many potential CCTV system users (airport management, airport security, police, border police, taxi companies, etc.). It is now very easy to offer the CCTV as a service (rent a video). With the old system the costs would have been too high.
- Digital video pictures can be transmitted over great distances (e.g. pictures of the airport can be sent to the police).
- Intelligent analysis functions can be added and integrated as required at a later date.
- Video streams can be transmitted to PDAs.
- Individual, legacy, stand-alone solutions can be integrated with the new solution so that the full potential of the system is fully exploited.
- The system is managed from a central configuration system. Expansions and user rights are set up quickly. Fully scaleable, the system can always be the optimum size.
- The user gets what is important for him: as little technical background distraction as possible, fast picture search and short latency (< 200ms).

TECHNICAL INFORMATION

For the best possible CCTV design it is vital to get the network and management right.

The best option for video data in an IP network....

- does not just depend on the video codec devices, but also depends on the distribution of the components. In addition the recording storage location needs to be considered at the planning stage
- reduces the volume of data by using decentralised ring memory storage and event-controlled recording on the central store
- requires only a temporary data stream to display just the relevant video pictures at the workstations
- uses multicast coding so that links are not unnecessarily overloaded with duplicate data streams. Specific network planning is important for this
- uses different stream sizes to match the demand at any time. So for example if high quality pictures are not required the stream can be adjusted accordingly.

MANAGEMENT

- Easy integration in existing systems is important so that the customer can use his existing structures (maintenance support etc.) e.g. HPOpenView (via SNMP). Central distribution of software makes for faster and more economic maintenance.
- The system is managed through a central configuration system. Expansions and user-rights are therefore quick to set up and the system size can be adjusted to match requirements.

CURRENT STATUS

The first part of the CCTV system went into service in the Airside Center at the end of July 2004. The installation of the CCTV for the airport management was completed in January 2005.

Installation status January 2009:

- CCTV cameras: 420
- Encoder: 61
- Streamrate: 2 - 5 MBit/s
- Constant video streams: ca. 150
- Display stations: 92
- Decentralised recording: 50 TByte
- Centralised recording: 800 GByte

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