CASE STUDY – HONG KONG INTERNATIONAL TERMINAL 9

(2006-01)

Main Features

Features

- More than 82 cameras
- 10 Remote Operator Controllers
- 3 Level Password Control
- 62 days Remote Digital Recording
- Hierarchical Prioritised Remote P/T/Z Camera Control

The Challenge:

Hong Kong International Terminals (Terminal 9) is one of the busiest container terminals in the world with a sophisticated logistics computer system. The system maintains logistics and cargo control with over 99% accuracy. In this environment UniVision were charged with the responsibility to deliver a CCTV design which met the same exacting standards affording maximum convenience and ease of use to the operators including on-site Customs and Excise personnel.

The CCTV system in Container Terminal 9 (CT9) covers an area of over three acres, primarily external container storage facilities. There would be ten operators which would include the following departments: Tower Control, Security and Maintenance Services. Operators need to access the same video images simultaneously; therefore, implementation of priority camera control by associated remote work stations was stated to be of the highest importance.

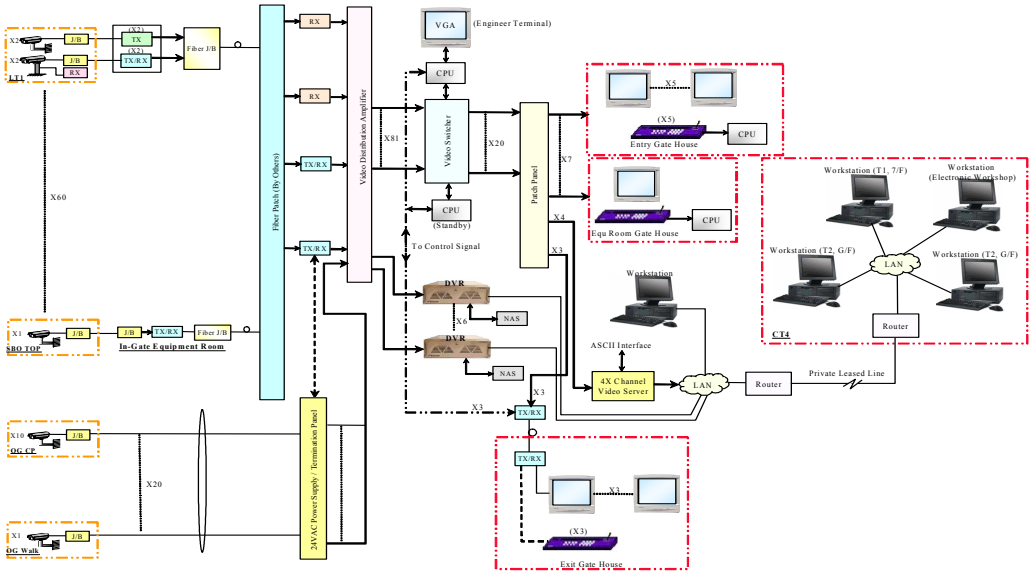
The design criteria was to cater for a close to real-time digital recording system with a frame rate approaching 25fps (PAL) and video storage capacity of over 62 days. The digital recording system itself should be completely transparent to the operator work stations and their Graphic User Interface (GUI), as such the digital recording is unmanned, and therefore performance stability was to be among the priorities when choosing the successful design.

The CCTV system was to be equipped with independent control workstations at a separate facility within: Container Terminal 4 (CT4) connected via dedicated private leased lines. CT4 operators are to have completely independent control from those in CT9 itself.

Solution:

A sophisticated hybrid solution using UniVision's acclaimed video matrix switcher MV900, associated UniVision proprietary equipment such as the highly successful UV218 Video Distribution Amplifier and PTZ protocol control systems. Digital recording was achieved using the six NetServer DVR's and a specialist 'Transmission Server' was developed allowing the remote operators at CT4 to view any four cameras simultaneously and in real-time via their remote work stations.

The whole system was equipped with a custom designed Network Attached Storage (NAS) to cater for the 62 day digital video file storage specification. The design linked-up each of the six individual NetServer DVR's to the NAS, so that the system performs as one mass storage device. Custom developed software also provided alarm alert reporting of any interruption in the file transfer process from the DVR's to the NAS system, to CT4 operator work stations, via their own GUI.



The above block diagram illustrates that by using a fiber network, all image and data signals will be centralised at the 'In-Gate House', via the Local Area Network (LAN). An operator is able to retrieve video files from servers using TCP/IP protocol. Pan/tilt/zoom camera control is done by implementation of a UniVision MV900 Video Matrix Switcher and a project specific prioritised camera viewing programme, custom designed for this site.