Video Surveillance
for
Enterprises & Factories

Genius Vision Digital

Meaningful Goals

Past & Present

In the past, enterprises and factories relied on nothing but manpower to monitor work floors, waste reduction, mass production, automation, control of hazardous materials, regulartory compliance assurance, and so on.

During the 1980s, as CCTV had become less expensive, it spread wide across the United States in those public places prone to theft and robbery, such as retail chains and banks. Following this trend, the industrial processes that take place in dangerous conditions for humans were brought under the supervision of video surveillance.

Later in mid 1990s, the revoluation of digital video and broadband network had swept across the world and eventually led to the full domination of IP cameras, which offered much better video quality than the analog ones.

Today as network becomes an inseparable part of our lives, video surveillance servers are no longer standalone, isolated, or purely analog-based. They have become a component fully merged in the network of an enterprise.

To set up an IP-based video surveillance system, network infrastructure is crucial. Bandwidth, QoS, info security, network services, and virtualization are all key conditions to an enterprise-level IP network that supports video.

Hence, for a good design, the concern and decision making has transited from the conventional viewpoint of a physical equipment manager of security to those of the executives of finance and IT profession.

Value

What a video surveillance system can bring to an enterprise today is no more limited to property protection, personnel safety, and regulatory compliance. It boosts the value of an enterprise by making the enterprise a better and safer place to work in.

Basic Benefits

- Prevents & reduces theft
- Secures buildings and assets
- Protects employees
- Increases productivity
- Reduces false liability claims

Challenges to overcome

Security planners face some challenges to build a comprehensive IP video system for an enterprise or a factory

Long and reliable video recording at excellent speeds

Some critical infrastructure and manufacturing facilities operate 24 hours a day and seven days a week. Video surveillance is needed around-the-clock, and video recording is needed nonstop for at least six months or longer. They need a video system with excellent video write at high speed on a 24x7 basis, and the storage and writing bandwidth need to be enterprise-level.

Video walls

A video wall with dozens of synchronous live videos on multiple monitors can help the control center of an enterprise quickly cover as many floors as possible. The video quality needs not to be compromised if the video system is enhanced enough to optimize live video views.

As many HD/MP cameras as possible

An enterprise or factory often covers a complex of buildings or spreads wide across an area, such as a warehouse, assembly lines, and shipping areas. So they need a large number of cameras and a centralized management platform.

3rd-party system integration

The security planners also need a design ready to integrate 3rd-party systems, such as ACS, alarms, VCA, PSIM, and so on. No extra money and effort in engineering work is a must for quick and easy integration, and 3rd-party system data need to be shared among multiple corporate departments. Integrable with legacy devices.

Integration with legacy devices

Security planners are getting the headache caused by the existing analog devices of an enterprise or factory. They have to bring these legacy devices onto a new IP-based video management platform. They need a design that can integrate legacy devices.

Powerful user management

The video system on an industrial location is usually accessed by a variety of departments such as head management, inventory, fabrication, procurement and the most important of all, security department. Hence the video system for an enterprise should feature a powerful tool to manage user accounts and permissions.

Powerful alarm management

A competent video system for an enterprise should have powerful alarm management. It should feature highly definable conditions to launch an alarm, such as hardware health alarm like CPU overheat, or channel alarm, such as video loss. Powerful alarm management should also provide users with diverse options to launch an alarm; for example, users can choose to launch an alarm by a pop-up video pattern or by a pop-up text message.

Remote access clients

A comprehensive IP video system should provide as many clients as possible, such as software clients, web clients, and iOS/Android clients. Users can access system service remotely on a mobile device, on a PC, or via a web browser. They can get more connected with the video system.
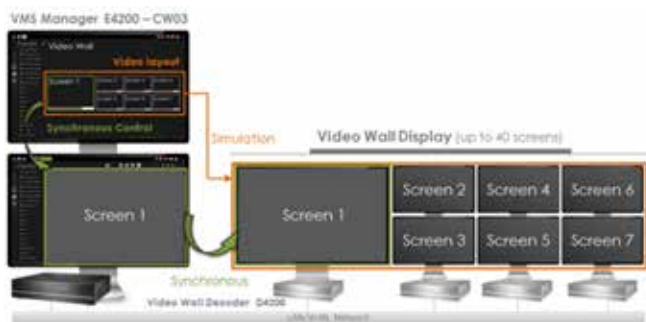
Software features of
GVD *Central Management Solution*

Synchronous video-wall control

For video walls, GVD features "*Synchronous video-wall control*", which means your operation at the management console is directly and promptly applied to a remote video wall, for example, you can drag-and-drop a video to output it on a remote video wall, whether live or playback, and you can drag-and-drop a video pattern to change the video layout on a remote video wall. All video walls on the UI can be freely relocated onscreen to reflect their real location on-site so you can quickly tell which video wall to manage by the relative location shown onscreen.


Smart Keeper

To better control a large project, GVD's central management

software **VMS Manager** features a dedicated page to show how many devices are there in the system and how these devices are working at the moment. The information is shown on an efficient overview page in a organized and classified way. 11 types of devices are supported on such an overview page including camera channels, NVRs, DIO modules, doors, video wall displays, directory servers, failover servers, backup servers, station servers, etc. A "*Smart Keeper*" is there to detect any available device and add it to the system, such as an NVR, camera, decoder, or failover/backup server. Such a "*Smart Keeper*" also auto-updates the change of information of an existing NVR. The "*Smart Keeper*" is a innovative design that lessens the complexity of the setup and configuration of a large-scale video system.

Case Builder
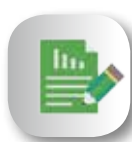
GVD's central management software **VMS Manager** features a tool to let you systematically inquire into a suspicious event on your business floors. You can record each your investigation act with an "*Investigation Note*", with text description, video clip and screenshot attached, and these notes can further be stored in an "*Investigation List*", which then forms an organized documentation of your investigation on an a case. In some worst conditions, the document can provide you with the evidence required for criminal investigation.

Facility map & GIS map support

The central management software **VMS Manager** supports "*facility maps*" and **GIS Maps** to truly mitigate the complexity of large-scale IP video surveillance across wide area of lands such as a city.

A facility map

GIS map

Software features of
GVD *Central Management Solution*

Adaptive Video Streams

Adaptive Video Streams is a technology for a viewer to stream not necessarily the high-profile main stream but possibly the low-profile sub stream as long as the size of the viewer is small enough to compensate for the low-profile video quality, which poses a great help for video display in poor network conditions. The central management **VMS Manager** lets users enable/disable this feature for an individual viewer and lets users define a platform-wide limit on the viewer size to give up this feature to make *the feature* more flexible.

Panoramic fish-eye dewarp

The central management **VMS Manager** lets you dewarp a distorted video from a panoramic fish-eye camera when you are managing a video wall, video-documenting an investigation, or conducting local monitor if the video doesn't get dewarped by GVD **HD NVR**.


Dewarp a distorted video with panoramic filters

Nonstop video live-streams & playback

GVD central management solution not only includes redudancy such as failover and backup but also breaks through the limit of failover with "*Edge recording*", in that a GVD NVR automatically reduplicates the video data stored in the SD or memory of a camera after video recording task fails back onto the NVR. Video live-streams and playback won't be interrupted with such "*Edge recording*". This feature is much helpful for a broken network and also better protection of video data.

Tag management

The cental management **VMS Manager** comes with a unique and very useful "*Tag Management*" to let you efficiently spot one particular channel among a large group of them. The "*Tag Management*" relies on a virtual label attached to a channel to be quickly screened from a big group of online ones.

Powerful *SW-E2200-CW03* bundled

A software program **SW-E2200-CW03**, i.e. "*CMS Manager*", is pre-installed with the central management software **VMS Manager** to bring a full remote configuration tool of NVRs and cameras. This "*CMS Manager*" also enables advanced video operations including synchronous playback and optimized video display, as well as sophisticated video computing such as **Video Content Analysis** and advanced metadata search.
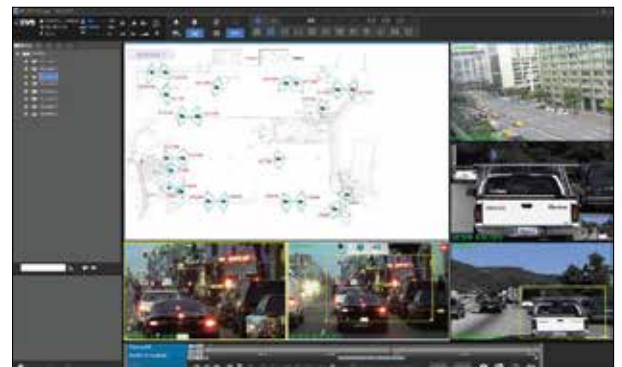
"CMS Manager"

System architecture