IBM Video Analytics

AI-infused video can increase the effectiveness and speed at which businesses communicate and operate

Ninety-five percent of businesses today use live streamed or recorded video to engage their customers and increase workforce productivity. Artificial intelligence presents the opportunity to use machine learning to extract and structure insights from video that can also help make better business decisions. Specifically, video intelligence provides the ability to recognize objects, sentiments, phrases and terms inside of video, from live-streamed events, training videos and worksite or retail-store footage, designed to not need any human effort. These analytics allow businesses to discover and use relevant highlights. This creates opportunities for leaders to not only communicate more effectively and efficiently, but also spot patterns and adapt business processes.

IBM Video Analytics offers an event-based solution that analyzes video streams for pre-defined objects, identifying feeds to provide alerts for security staff — in real time. Video Analytics supports activity search, cross-correlation and trend analysis, which helps enable the efficient analysis of video footage both in real time and for investigations.

Rich, content-based indexing and search

The broad capabilities of Video Analytics fully complement and enhance existing video infrastructure and can be used in many industries and business environments.

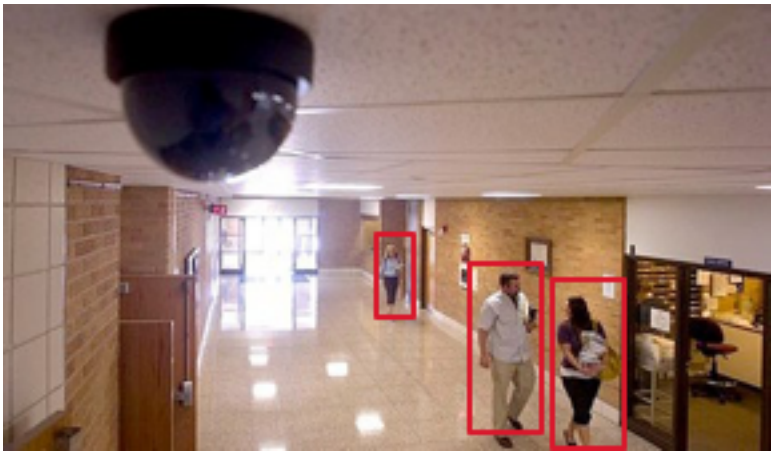

Figure 1: Counting people in a public place

Highlights:

- Provide real-time alerts for predefined behaviors of people, vehicles and objects.
- Index alerts and other activities across every camera and sensor.
- Index a wide variety of attributes about each and every event.
- Process millions of events to create an index that can be searched, analyzed and correlated in seconds.
- Customize dynamic behavior analysis based on user-defined criteria or new threat models.
- Use the same video feed for multiple applications.
- Use existing cameras and network infrastructure.
- Increase productivity and efficiency.

Standards-based, open, extensible architecture

Video Analytics has advanced detection, classification and indexing algorithms that help the user “mine” the index of events for various criteria. Users can search real time and historical data for specific items, such as vehicles and objects. To narrow the search, data mining allows searching by color, size or speed of a moving object, such as an automobile.

Video Analytics provides a statistical analysis of activities, such as people entering a building. Sort by date, time or over an extended period of time, to perform a trend analysis. Figures are linked to their particular video feed for immediate viewing when a potential anomaly must be reviewed promptly.

Video Analytics can provide invaluable, real-time information about activities in progress.

Middleware for large scale

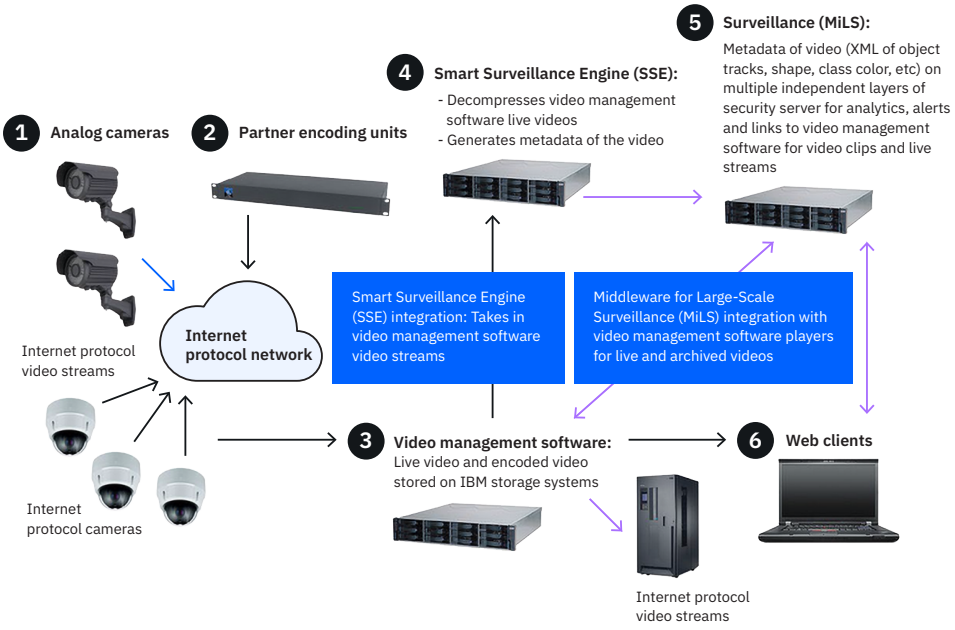

Figure 2: Sample network diagram of Video Analytics standards-based, open and extendable architecture

Video Analytics can use existing cameras and network infrastructure

Video Analytics architecture is specifically designed to facilitate interoperability with products from different vendors to broaden and enhance the overall framework for a particular environment. This approach to video analytics allows an organization’s processes to evolve as needed, incorporating third-party products and services, such as specialized analytics, sensor data and integration with transactional information technology systems.

Real-time alerts

- Motion detection
- Trip wire
- Object removal or abandonment
- Counter-flow detection
- Tailgate detection
- License-plate recognition
- Combination alerts
- Customized alerts
- Crowd forming / running
- Loitering
- Directional motion

Indexing and search

- Attribute-based search (size, color, speed)
- Date and time ranges
- By location, in field of view
- License-plate search (partial or full)
- Across multiple cameras
- Track objects in view
- Attributes-based search (add: time, duration)
- Counting
- Able to work in crowded scenes and challenging environment conditions

This interoperability helps make Video Analytics easier to implement by using and enhancing current technologies, rather than isolating them.

Video Analytics can be deployed in analog, digital or hybrid environments. Organizations are not required to purchase the latest cameras or overhaul the existing video system infrastructure. Video Analytics can be integrated into the current environment and receive the video feeds from existing analog and digital cameras from supported video management software.

It then performs analyses, generates alerts and indexes data based on the information in each frame. If sufficient capacity exists, Video Analytics can also run on an existing network infrastructure, further lowering the costs and resources that would otherwise be needed to deploy a new network architecture.

Video Analytics integrates with video management software and network video recorder solutions, including Genetec, Milestone, Cisco, Acti and Pelco. Others that support Microsoft Direct Show Filter can be integrated or customized. Video Analytics uses video management components to effectively distribute, store and manage incoming video feeds from every camera on the security network.

For more information

To learn more, contact your IBM representative, IBM Business Partner or visit: www.ibm.com/watson/media

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