Provide Brighter Eyes for Cities

Intel® Architecture –based BOCOM* HD Intelligent Solutions Help Build a Peaceful Society

Along with the fast development of the society and economy, people's demands for security and harmony in daily life are increasing. It becomes one important trend how to make use of rapidly evolving information technology to help the security industry transfer from taking belated actions to taking preventative measures. As an important segment of the security industry, the video security and surveillance market is moving from analogy/digital monitoring to the era of HD intelligent monitoring. It is predicated that over 60% front-end IP encoders and equipment will support intelligent features by 2013. The security industry needs new intelligent HD video surveillance solutions for this trend.

As an integrated video surveillance solution provider, BOCOM* has been committed to providing a variety of self-developed products and solutions to customers. BOCOM* has launched new intelligent HD solutions combined with Intel's low power and high performance Intel® Core™2 Duo processor to meet the demands for intelligent HD video surveillance technologies in the security industry. Promotions among large customers in government, public security, defense, airport, highway, urban transportation, rail transportation and other professional fields proves that new BOCOM* intelligent HD solutions with excellent reliability, advance, scalability, security, continuity and openness can totally meet new demands of security industry.

"Intel® Architecture Processors, with advanced multi-core CPU technology and integrated new multimedia instruction sets, redefines the BOCOM* video surveillance platform performance in High Definition and Video Analytics environment. BOCOM's new Intelligent Hi-Definition platforms are an excellent example of the application of Intel's technology to deliver industry leading solutions."

Ton Steenman
Vice President, Intel Architecture Group
General Manager, Low-power Embedded
Products Division
INTEL CORPORATION

CHALLENGE

Development of supplicated intelligent HD video surveillance solutions require a flexible and efficient platform with:

- Excellent compatibility;
- Powerful computing capability; and
- Excellent security and stability.

SOLUTION

By adopting low power Intel® Core™ 2 Duo processor, BOCOM* has launched new intelligent HD solutions, which have been applied in many fields.

- With powerful CPU processing capability with over 2GHz main frequency, low power Intel® Core™ 2 Duo processor provides the new solution with powerful performance.
- Common Intel® architecture is compliant with the PC platform, making software of the new solution more compatible and easier to modify and upgrade;
- Advanced Digital Multimedia technologies, such as Intel® Streaming SIMD Extensions 4.1 (Intel® SSE4.1) instruction set, provide the new solution with greater parallel HD processing capability.

RESULTS

By adopting low power Intel® Core™ 2 Duo processor, BOCOM* has launched new intelligent HD solutions with excellent reliability, advance, scalability, security, continuity and openness.

- Thanks to the combination of low power Intel® Core™ 2 Duo processor and the unique BOCOM* identification technologies, the image capture rate of the new solution is over 99% and the image identification accuracy is up to 95%.
- The powerful processing capability of low power Intel® Core™ 2 Duo processor provides new BOCOM* solutions with high-volume throughput and large load capacity, enabling them to process and integrate mass data, and display, call, control and manage various video information on a unified platform.
- With the low power Intel® Core™ 2 Duo processor, new BOCOM* solutions can realize intelligent HD features on one single platform, thus significantly simplifying the system and improving the stability of the whole system.

Intel® Architecture–based BOCOM* HD Intelligent Solutions Help Build a Peaceful Society

As an important partner for Intel in the field of intelligent HD video surveillance, BOCOM* has developed Intel Architecture–based new intelligent HD solutions by establishing technical partnership with Intel. These solutions not only excel in high-quality video capture, but also have superior performance in compatibility, scalability, and have been well received by customers in a series of promotions.
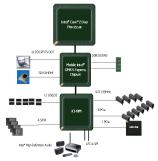

Figure 1 Low Power Intel® Core™ 2 Duo Processor

Chief Scientist of BOCOM* said: "There is no doubt that HD and intelligence is the trend of video surveillance in the future, which brings both opportunities and challenges. Video surveillance solutions developed on traditional platforms obviously can no longer meet the market demands. The high-performance processing platform based on the low power Intel® Core™ 2 Duo processor has provided us with powerful tools to handle the enormous challenges."

To ensure that new intelligent HD solutions can "see clearly and precisely", BOCOM* has adopted the low power Intel® Core™ 2 Duo processor-based platform to ensure the outstanding performance of new solutions, and the front-end information collection and analysis system is just like the eyes of BOCOM* intelligent HD solution. With the help of the front-end intelligent analysis box on the low power Intel® Core™ 2 Duo processor-based platform and the fast analysis by the internal software, the eyes of the

system are made more intelligent. Powerful CPU resource provided by low power Intel® Core™ 2 Duo processor-based platform helps BOCOM* apply HD cameras to new intelligent HD solutions. Featuring up to 1080P HD precision, intelligent analysis software, license plate recognition and inquiry, street-traversing people pre-warning and flexible adjustment and upgrade according to the needs, the new video surveillance system can monitor clearly and precisely.

In addition to superior performance, Advanced Digital Multimedia technologies of low power Intel® Core™ 2 Duo processor, such as Intel SSE4.1 instruction set, also provide BOCOM* intelligent HD solutions with greater parallel HD processing capability. These technologies enable BOCOM* intelligent HD solutions to process HD videos more efficiently.

No doubt, an intelligent HD solution can't separate from its secure and reliable operation. And the particularity of video surveillance industry requires the system performance to be absolutely secure. Practices show that the fault rate of video surveillance system is usually in inverse proportion to the system's complexity; namely, the more complex the system is, the more likely is the system to fail. In order to lower the system's complexity while ensuring its performance, BOCOM* has adopted low power Intel® Core™ 2 Duo processor-based platform under the help of Intel. And this platform alone has effectuated all functions required and it is able to develop application software of the new solution under Intel's common architecture. Since this architecture is compatible with PC platform, software developed on it possesses good compatibility and can be modified and upgraded easily, which greatly simplifies the new solution system and improves its overall reliability.

Figure 2 BOCOM*'s Intelligent HD Product Based on Low Power Intel® Core™ 2 Duo Processor

Focus

The development of intelligent traffic seems especially important for Shanghai Pudong New Area where the Shanghai Expo is being held. Therefore, Pudong New Area started to install more-advanced intersection intelligent HD systems as early as 2008. BOCOM* undertakes the most important HD Video Surveillance Gate Construction Project, dividing the 532 square kilometers into 27 enclosed surveillance grids according to the West Thick and East Thin Layout. It deploys 1,228 HD video surveillance gates on the roads, bridges and tunnels at the crossing of Pudong New Area and outer area as well as trunk roads, bridges and tunnels inside Pudong New Area to monitor on 24-hour basis all targets (motorized vehicle, non-motorized vehicle, foot passenger) passing through the surveillance gate, and capture target images and automatically identify the vehicle's license plate. The successful application of BOCOM HD card intelligent identification system, combined with the intelligent road surveillance network system formed by road surveillance equipment and modern information network technology, will surely improve the road dynamic management and control, satisfy the ever-increasing requirements for public security, criminal investigation and traffic management in the new situation, and guarantee the success of Shanghai Expo 2010.

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