

Software Development Kits — helping system integrators to design tailor-made Video Management solutions

In creating large tailor-made Video Management solutions, security system integrators and software developers face many problems as well as tight deadlines. Designing tailor-made solutions without any help from their hardware manufacturer is a daunting task. Thankfully, the latest powerful and easy-to-use Software Development Kits (SDKs) from equipment manufacturers can make life much easier — and significantly reduce costs — by overcoming some of the integration and new technology difficulties. What's more, SDKs allow end-users to exploit hardware and software features to their full potential.

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The Software Development Kit is becoming increasingly popular in a variety of fields as the state-of-the-art tool for developing reliable software applications quickly. Typically, an SDK comprises development tools that enable an engineer to create new applications for a specific software or hardware platform. In essence, each SDK is a collection of software components and functions that can be used directly by System Integrators. Moreover, in the case of Bosch, the CCTV SDK Suite is also used in-house to develop Video Management software.

For System Integrators, the quality of an SDK is critical to the success and reliability of the final application. Bosch Security Systems has been building a suite of SDKs to help a growing number of System Integrators benefit from the same high quality that's assured by rigorous internal quality programs. But there are many other benefits for them:

- support at the component level (support modularity)
- access to the latest technologies with guaranteed up/downward hardware compatibility
- all the functions needed to get the most out of the hardware
- a well-maintained stock of good quality software components, directly useable without extra development time
- future proof development — new hardware is automatically available in SDKs
- familiarity with universal components for all IP products (same look and feel)
- freedom to integrate non CCTV connectivity into the design. For example, to integrate access, intrusion or number plate recognition systems, etc.

Thanks to SDKs, the System Integrator is able to design, adapt and implement state-of-the-art solutions with much less development time than needed otherwise.

SDK in action

Alphatron Security Systems, a System Integrator based in the Netherlands, combines video, data, communications, access and smart analysis software, using SDKs to free up resources and focus on integration. A key component in their tailor-made software is the Alphatron CCTV management suite, partly designed with the Bosch SDK. Recently, Alphatron enhanced the CCTV security at KLM Cargo's facilities around Schiphol Airport (Amsterdam). Their designed solution offers centralized control of several multi-site CCTV systems. What's more, it can now efficiently monitor and control a total of 500 cameras at the facilities.

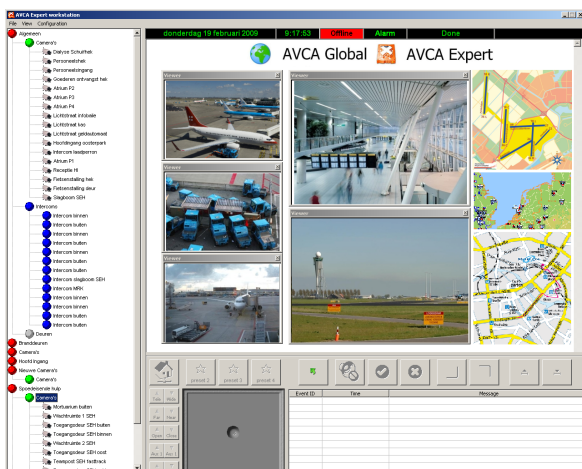
Fast and flexible integration

The "Alphatron Visual Control Application" (AVCA) is a scalable, user-friendly software suite offering easy CCTV management. By using the SDKs at development time, the AVCA applications (AVCA Global, Expert and VIP) have become cost-effective and offer fast customization and expansion possibilities — ideal for KLM's needs. As a result, their new security system was commissioned quickly (within two months) meeting KLM's requirements of local and central control, and offering state-of-the-art surveillance and security.



The power behind the matrix

At each of KLM's individual network control centers, an AVCA Expert System Manager (illustrated) controls the system. SDK components were used to create a fully controllable and customizable video matrix. A typical example of what can be offered by the SDK is a feature such as the Device Finder component. This allows extra cameras to be added to the network and video matrix very easily, with minimum effort for the system integrator.



Another SDK example is the Cameo display component. The Cameo software automatically decodes the incoming compressed video stream of a camera into a fully-rendered, individual picture window. There is no need for the System Integrator to bother with the details of the stream.

As new Bosch hardware is developed, Alphatron can simply pick the specific components they need and drop them into AVCA software development environment to obtain the required functionality – without having to know anything about the components’ internal operations. The newer SDKs are based on the modern Microsoft Visual Studio .Net platform. This allows state-of-the art development via common programming languages like C# (C sharp), Visual Basic .NET, Java, VB6, and VB scripting and C++.

Thanks to SDKs, versatile software components created by the company that actually produces the hardware, can be re-used and provide an easy pick-and-drop approach to customization.

SDK growth and improvements

Bosch has adopted a proactive approach to marketing its SDKs by setting up special arrangements with selected system integrators. Subject to non-disclosure agreements, they can use Bosch’s suite of SDKs under favorable financial conditions — even free-of-charge — for a fixed contractual period, with free updates and global support. They can also take advantage of Bosch SDK training programs, which offer techniques for using the SDKs fast and efficiently, and allow product differentiation. The SDKs are regularly updated to match market needs and hardware developments. Bosch continues to invest in improving the functionality and quality of SDKs, including comprehensive documentation and testing.

Table1 Bosch SDK overview

Video-SDK	All round SDK for IP encoders/decoders and Bosch DVRs
RCP+-SDK	Remote Control Protocol for detailed IP encoder/decoder integration
BVMS-SDK	Integration of Bosch Video Management System with third-party software
Vidos Automation Interface	Vidos control over IP for third-party software
Divar-SDK	A rich library of modules for Divar-2 recorders
KBD-Universal	IntuiKey keyboard integration in third-party applications
ATM/POS-Bridge Protocol	Protocol description of the ATM/POS Bridge

The SDK suite (Table 1) has been well received: its success has not only been confirmed by Alpatron, but also by numerous System Integrators around the world. As system integrators like Alpatron have discovered, SDKs ease the burden of customization while offering more functionality and easier maintenance. And that means a faster return on their investment.