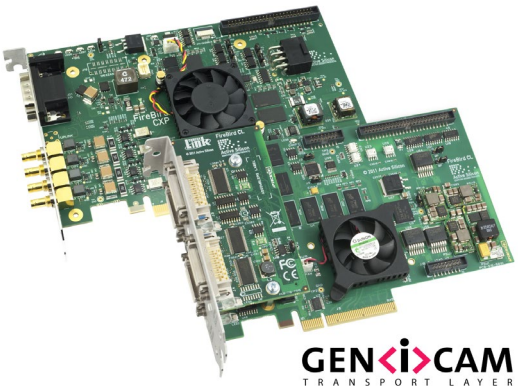
GenICam Solutions
Consumer and Producer

- **Support for GenAPI, GenTL, GenCP and CLProtocol**
- **FireBird CoaXPress and Camera Link Frame Grabbers supported**

FEATURES

- GenTL Producer for FireBird CoaXPress and Camera Link frame grabbers.
- Compatible with CLProtocol and GenCP Camera Link cameras.
- Develop hardware independent applications.
- Easily migrate from GigE Vision or USB3 Vision applications to high-speed Camera Link and CoaXPress solutions.
- Fully featured **GenICam** Consumer application "ActiveCapture" provided (see ActiveCapture datasheet).



OVERVIEW

GenICam is a generic application programming interface (API) for vision related hardware such as cameras and frame grabbers from a variety of manufacturers which use different physical interface technologies (Camera Link, CoaXPress, GigE Vision, USB3 Vision). The standard is hosted by the European Machine Vision Association (EMVA) and provided free of charge. The **GenICam** Standard Working Group is comprised of key machine vision companies and is responsible for the continual development of the standard.

One of the key benefits with using **GenICam** is interoperability - any **GenICam** compliant hardware should work with any **GenICam** compliant software. This means that applications already using the **GenICam** environment, for example with GigE Vision or USB3 Vision cameras, can now target Active Silicon's high-speed and high-quality Camera Link and CoaXPress frame grabbers with minimal change to the application.

When a FireBird frame grabber is installed along with the FireBird GenTL Producer, the FireBird hardware is readily available to the **GenICam** compliant application. A developer does not need to be familiar with the frame grabber specific API because access to the FireBird hardware is the same as it would be if a **GenICam**/GenTL compliant GigE Vision or USB3 Vision camera were used.

The FireBird GenTL Producer will work with a range of 3rd-party packages such as HALCON and Common Vision Blox, as well as many other **GenICam**/GenTL compliant software packages.

It is important to note that Active Silicon's GenTL Producer supports CoaXPress and Camera Link (CLProtocol/GenCP), allowing an application to target either technology seamlessly.

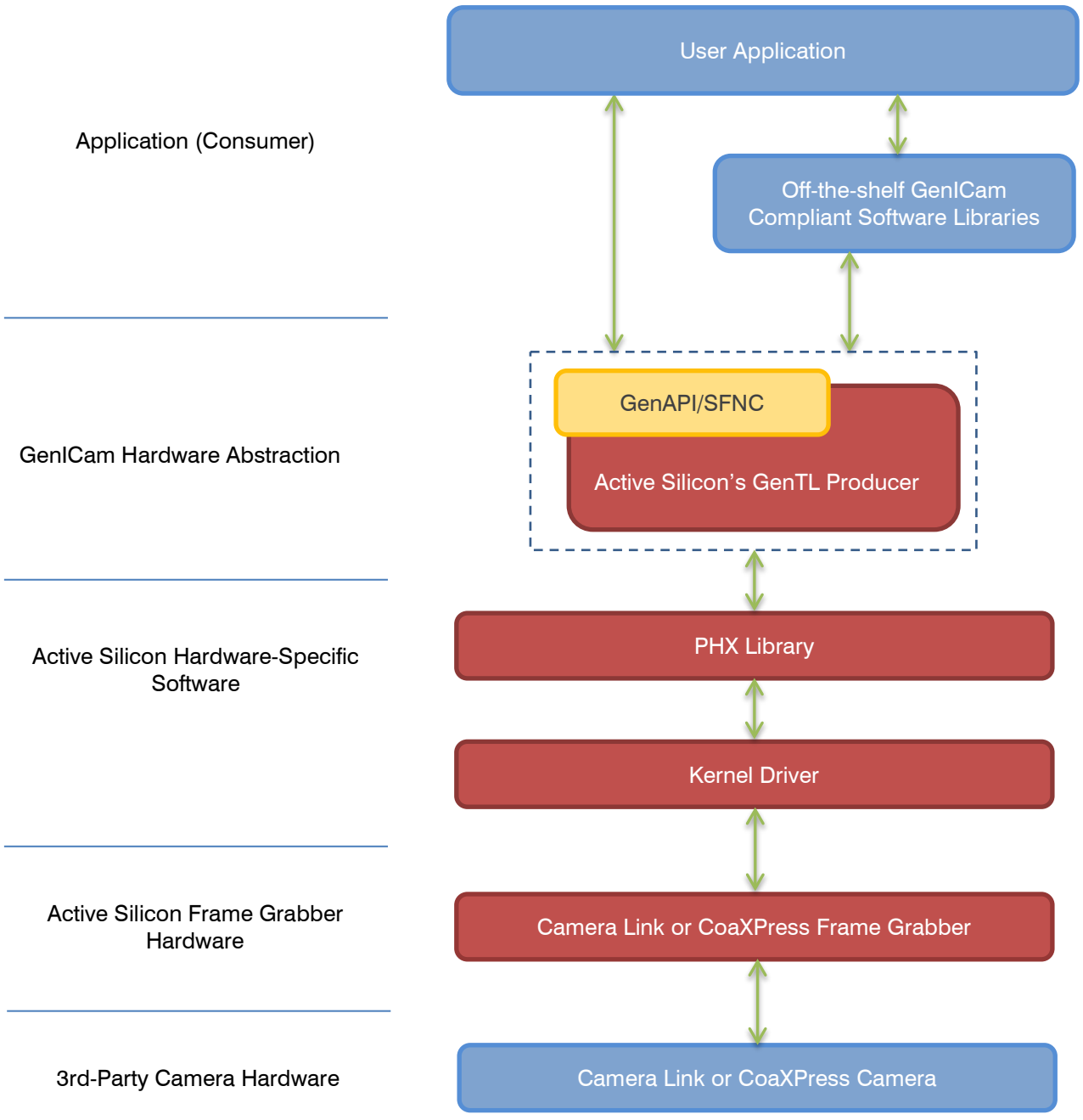
As part of the software installation, Active Silicon also provides the **GenICam** standard reference implementation and examples of **GenICam** applications targeting FireBird hardware. These can be used by customers to form the basis of custom **GenICam** programs.

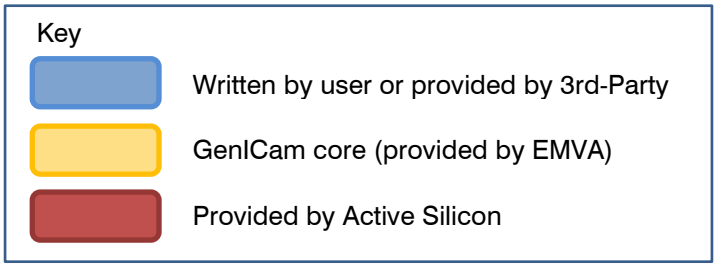
GENICAM COMPONENTS

GenICam consists of several key components:

- GenAPI: C++ reference implementation of the **GenICam** standard which provides the necessary components required to build a **GenICam** compliant application (can be referred to as a 'Consumer').
- SFNC (Standard Feature Naming Convention): Standardises the name of common features available on devices. Device manufacturers are required to use the same name for particular features rather than creating new ones, this ensures that compatibility is maintained across different devices.
- GenTL: Generic API to communicate with hardware devices. The GenTL API allows the hardware be discovered, controlled (via register access) and images to be streamed to the host as well as monitoring specific events.
- GenCP (Generic Control Protocol): Hardware independent protocol which defines register access and events. GenCP is currently used by USB3 Vision and some Camera Link cameras.
- CLProtocol: A software protocol allowing the use of **GenICam** with non-GenCP Camera Link cameras. CLProtocol enables compatibility with serial port protocols used on Camera Link cameras. Note that the camera vendor will provide a separate DLL to support their specific camera's protocol.

BLOCK DIAGRAM





THE FIREBIRD RANGE

The following products have GenICam support:

- High performance CoaXPress frame grabbers, including single, dual and quad CXP-12 and CXP-6 support.
- Camera Link frame grabbers, including 80-bit (Deca) and dual 80-bit support.

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