Make Vs Buy:
KAYA Instruments CoaXPress FPGA IP

International Distributors

Sky Blue Microsystems GmbH
Geisenhausenerstr. 18
81379 Munich, Germany
+49 89 780 2970, info@skyblue.de
www.skyblue.de

In Great Britain:
Zerif Technologies Ltd.
Winnington House, 2 Woodberry Grove
Finchley, London N12 0DR
+44 115 855 7883, info@zerif.co.uk
www.zerif.co.uk

About CoaXPress

CoaXPress is a new digital transmission standard that allows high speed transfer of data from a device, such as a camera, to a host, such as a frame grabber. Each CoaXPress link supports data transfer rates of up to 12.5 Gbps, along with device power of up to 19W and device control at up to 40 Mbps – all on a single coax cable.

For very fast devices, the links can be aggregated to provide multiples of the single coax bandwidth. Long cable lengths are also supported – up to 30 meters at 12.5 Gbps and over 100 meters at 3.125 Gbps.

The CoaXPress Device IP Core has been successfully implemented on all the following FPGA families:

Device Family	Support	Max Links speed
Artix 7	Full	CXP-6
Kintex 7	Full	CXP-6
Kintex 7	Available on request	CXP-10
Kintex 7 Ultra Scale	Full	CXP-6
Kintex 7 Ultra Scale	Available on request	CXP-12
Kintex 7 Ultra Scale +	Full	CXP-6
Kintex 7 Ultra Scale +	Available on request	CXP-12
ZYNQ 7000	Full (1)	CXP-6
ZYNQ Ultra Scale +	Full	CXP-6
ZYNQ Ultra Scale +	Available on request	CXP-12
Virtex 7	Full	CXP-6
Virtex 7 Ultra Scale	Full (2)	CXP-6
Virtex 7 Ultra Scale	Available on request	CXP-12
Virtex 7 Ultra Scale +	Full	CXP-6
Virtex 7 Ultra Scale +	Available on request	CXP-12
Cyclone V GX	Full	CXP-3
Cyclone V SX	Available on request	CXP-3
Cyclone 10	Full	CXP-6
Cyclone 10	Full (host side) Available on request (device side)	CXP-12
Stratix IV GX	Available on request	CXP-6
Stratix V GX	Full	CXP-6
Stratix 10 GX	Full	CXP-6
Stratix 10 GX	Available on request	CXP-12
Arria V GZ	Full	CXP-6
Arria V GX	Full	CXP-6
Arria V SX	Available on request	CXP-6
Arria 10 SX	Full	CXP-6
Arria 10 SX	Available on request	CXP-12
PolarFire	Available on request (host side) Full (device side)	CXP-12

(1) Only for devices that have GTP or GTX transceivers available.

(2) Only for devices that have GTH3 transceivers available.

Shortened Development Cycle

As with most projects, schedule is a critical part of the make-buy decision. Purchasing IP instead of developing it from scratch is generally the easiest way to shrink the project schedule. You have to make sure that the purchased IP is of high quality, well documented, and can be quickly integrated into your design. If the purchased IP is of poor quality, you end up with the worst of both worlds: sunk cost and extra development time.

Custom-built software is more complex and there are several considerations you need to weigh when deciding whether to contract a custom software project.

Timeliness: Building software business applications is a complex process and can take months or years to complete. There are generally many unknown complexities that can only be uncovered once work has begun so software developers are unable to provide accurate delivery dates. This uncertainty is worsened when you require rare, specialized skills, like 3D animation. Inexperienced software developers may be willing to attempt the project but will likely grossly underestimate the time and budget required. Also, once you release the project, you will discover unexpected bugs and features you didn't realize you needed, which will continue to extend your project length far beyond your expectations.

Budget: If you don't have in-house developers, the ongoing costs of custom software development are challenging to estimate.

Licensed Software Products Is another way to get business software is to license an existing software product. There are several important advantages to licensing software. When you license a supported software product, you are paying for an entire infrastructure that ensures your software stays up-to-date with technology changes and there is a team on-call to fix errors that emerge. You are also sharing overhead costs with other customers so you don't have to bear the entire cost of development. Typically, licensed software companies also continue to add features to the software, making it an appreciating investment.

Here are the considerations to evaluate when you consider licensing software:

Timeliness: Because you are not starting from scratch, implementation time for licensed software should be much shorter than with custom-built software. There is generally still set-up time to configure the software to your needs and upload your data but the timeline is likely much shorter and predictable than with a custom software project.

Budget: Licensed software is typically priced based on a set fee schedule and it can be easier to predict the costs. However, there are usually ongoing fees associated with continued access to the software. Additionally, licensed software is often subject to use limitations that can impact your costs or impair your usage.

Conclusion: The complexity of systems is going up while budgets and schedules are shrinking. Asking a team unfamiliar with a complex protocol to design IP and tools from scratch may add time, costs and risk to a project and distract the team members from doing what they do best.

International Distributors
sky blue microsystems
Sky Blue Microsystems GmbH
Geisenhausenerstr. 18
81379 Munich, Germany
+49 89 780 2970, info@skyblue.de
www.skyblue.de

ZERIF TECHNOLOGIES LTD.
A SKY BLUE COMPANY, FOUNDED 1999
In Great Britain:
Zerif Technologies Ltd.
Winnington House, 2 Woodberry Grove
Finchley, London N12 0DR
+44 115 855 7883, info@zerif.co.uk
www.zerif.co.uk