

Webinar Device Architecture that enables vision implementations

The Proliferation of image sensors and displays for multiples industrial segments (ADAS, machine vision, video surveillance, VR, medical, robotics, ...) has created needs for interface matching of different standards or conversion to be able to connect the video path.

Lattice device architecture integrates primitives that allow you to optimize performance and get an easier implementation of high-speed Video protocols.

We will discuss source-synchronous interfaces as well as SERDES based interfaces and provide examples of Lattice software IP and the configuration tools to implement these interfaces. A guideline about the best devices to use for each protocol will be shared.

Webinar Objectives:

The Objective of this course is to provide an overview on the challenges that engineers will meet while implementing some Vision protocols. We will have a quick overview on source synchronous protocols (MIPI-CSI, DDR memory interface, ...) and SERDES based protocols (SLVS-EC, ...). Our goal is to highlight the architecture element of Lattice technology that will allow you to save time, have an efficient implementation and meet the performance required for each standard.

Agenda

Vision related solutions by example

- Image sensor bridging/aggregation
- Display interface
- Heterogenous sensor aggregation

High speed interface challenges

Source synchronous interfaces implementation

- External interface types (SDR, DDR)
- Data & Clock Skew
- PFGA Programmable I/O cell Architecture
- DDR Memory & MIPI CSI sensor interface details
- Software tools & IP configuration
- Supported protocol by device summary

SERDES Based protocols

- SERDES Link and Flexible PCS (Physical coding sublayer) architecture
- SLVS-EC architecture and IP configuration

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- Supported protocol by device summary

Format and Duration

- Webinar, 60 min. presentation, including Q&A

Webinar Objectives:

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Agenda

Demos

- The theoretical content is supplemented by demos presented by the trainer

Demo:

Applicable Technologies

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Software / Hardware used

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Prerequisites

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Format and Duration

- Webinar, 45 min. presentation and 15 min. Q&A

Participant Documents provided

- Presentation