

UHD 1GbE HOLOSCAN BRIDGE WITH JPEG XS RAW COMPRESSION

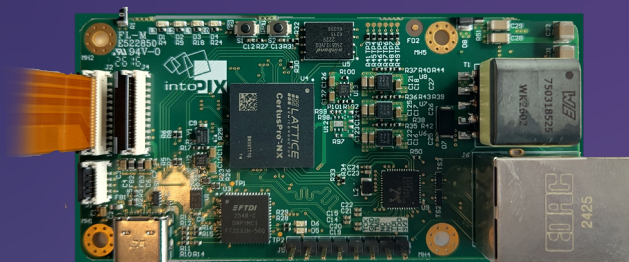
Single-Cable RAW sensor Streaming — in one step

UNLOCK RAW IN HOLOSCAN FRAMEWORK

A flexible, low-latency solution to connect MIPI sensors to Ethernet networks with efficient RAW compression.

KEY METRICS

- < 1 ms latency
- 2:1 to 16:1 RAW compression
- Single-cable connectivity



JPEG XS RAW

Ultra-low latency (<1 ms)

Single cable (data + power)

Sensor-agnostic

CODEC, SOFTWARE & STREAMING

- Hardware codec operating directly on RAW Bayer data.
 - JPEG XS RAW encoder running on FPGA
- SDK Decoding on Nvidia Platform

APPLICATIONS



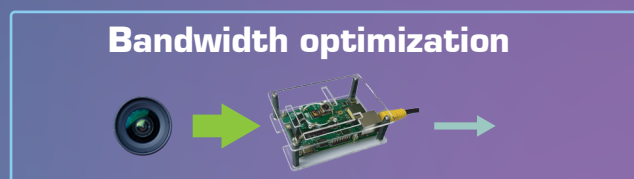
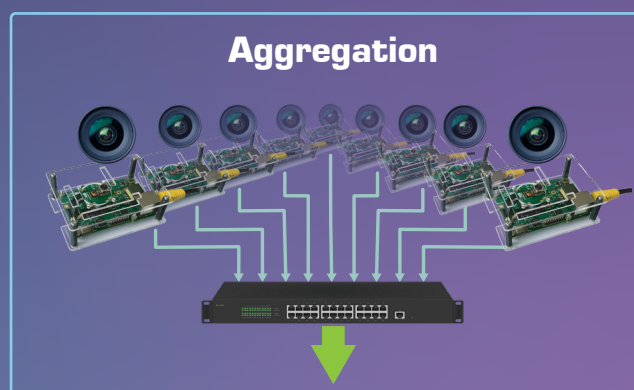
Machine Vision & Robotics

- Sensor evaluation
- Multi systems
- Inspection



Medical

- Surgical endoscopy
- Connected Operating Room
- Surgical robotics



Capture. Compress. Stream.

WHY HOLOSCAN BRIDGE WITH JPEG XS RAW

MIPI CSI-2 sensors deliver outstanding image quality, but are often limited by:

- Distance constraints
- Integration complexity
- Lack of flexibility

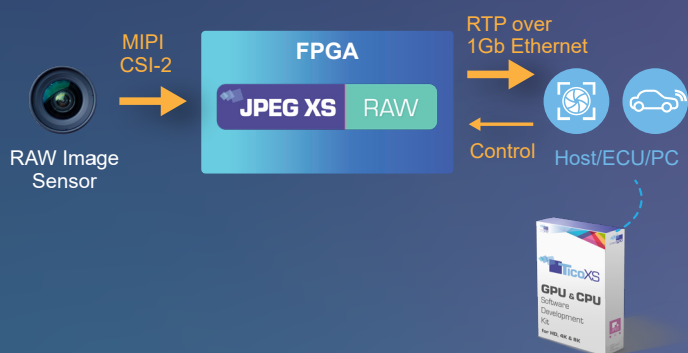
This low bandwidth Holoscan Bridge enables:

- Long-reach sensor connectivity without delay
- XS RAW compressed image transport over cost-effective Ethernet cables (Cat5E)
- Evaluation of any MIPI sensor without custom capture hardware
- NVIDIA Holoscan integration for real-time AI inference, Edge & Cloud

DATA PIPELINE

Powered by the intoPIX Bridge

From sensor to compute — in one streamlined pipeline



HOW IT WORKS

Image data is captured from a MIPI sensor, compressed directly in the FPGA, and streamed over Ethernet to a host system for real-time processing.



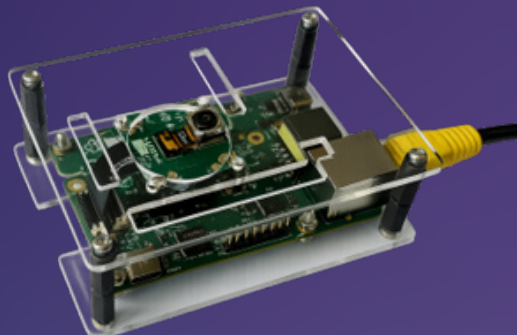
KEY ADVANTAGES

- Compression directly in FPGA
- Lossless and near-lossless quality
- Ultra-low latency (<1 ms)
- Reduced bandwidth

EARLY ACCESS KIT

HD/UHD MIPI to 1Gigabit Ethernet Bridge

Compact, flexible and ready-to-use evaluation platform



KEY FEATURES

- Lattice CertusPro-NX FPGA
- MIPI CSI-2 (1–4 lanes)
- intoPIX TicoRAW Line-based processing (ISO JPEG XS RAW) encoder implemented in FPGA, up to 4K60p
- Integrated Gigabit Ethernet PHY
- PoE (IEEE 802.3af/at)
- Standard RJ-45 interface

Suitable for automotive, industrial vision & robotics workflows



Contact our team of experts to learn how to integrate our solutions!

www.intopix.com
sales@intopix.com