

# MVA™ for Industrial Vision Applications

## Ethernet adapters with GigE Vision hardware acceleration

MVA software, running on CSPi's Myricom® Ethernet adapters, provides a high-performance platform for GigE-Vision-enabled devices. The MVA enabled Myricom adapter is uniquely able to provide a virtual frame capture capability for high speed Ethernet cameras and other GigE-vision devices. The MVA adapter processes the Ethernet packets composing camera frames and DMA's the payload contiguously and directly into the application buffers with no host CPU involvement. Doing this significantly reduces the overhead cost of frame capture, thereby making more host computer cycles available for image processing. It also reduces latency, reduces jitter and it load balances between host CPU cores. It will never get too busy and drop a packet.

The programmable Ethernet controller on the Myricom 10GbE adapters makes this possible. The MVA software API that CSPi provides makes the LANai chip's GigE Vision features available to the application. MVA accelerates applications using GigE Vision Streaming Protocol (GVSP) version 1.2. Because the MVA enabled adapter understands the GVSP protocol, it is able to generate interrupts to wake up the receiving application at exactly the right time – when the frame is available in the user buffer. Generic adapters must either generate interrupts for each packet composing the frame or use general interrupt moderation which introduces jitter and latency.

MVA talking to a Myricom adapter consumes only 5% of a single host CPU core when receiving 2 MB frames at the full 10GbE line rate (i7 class server from 2013). A single MVA-equipped server can support eight or more 10GigE Vision devices, or up to sixty-four GigE Vision devices.

CSPi offers MVA Ethernet adapters for commodity servers (low profile PCIe cards) and is available for both Linux and Windows.

The GigE Vision protocol is an AIA standard used by cameras that attach directly to Ethernet. Such cameras are used by vendors of industrial imaging equipment, military prime contractors, within medical imaging equipment, for traffic monitoring, and in other industries.

### KEY FEATURES

- Each adapter supports aggregating up to sixty-four 1 Gbit cameras into eight 10GbE ports
- MVA enabled adapters offload GVSP and send images directly to an application for image processing
- Intelligent interrupt generation reduces latency and jitter
- Load balance between CPU cores
- MVA software distributions are available for Linux and Windows

## Product Specifications

### KEY SPECIFICATIONS

Bus Interface	PCI Express Gen 2, 8 lanes wide (dual port adapters)
Form Factor	Low-profile PCI Express x8 add-in card. Ships with a standard height faceplate installed; low profile faceplate in the box.
Electrical Power	14.8W - 18.0W, Timecode Enabled Adapters
Environmental	It is recommended that adapters be installed into servers that provide some air flow over the PCIe slots (very common). Use in an office or computer room environment.
Operating System	Support for all major Linux distributions as well as Windows 2008R2 and newer.
Software Support	The API for the MVA software packages uses the C programming language to enable easy integration of existing GigE Vision native applications.

### REGULATORY APPROVALS, COMPLIANCE

EMI and EMC, Class A	USA, Canada, Europe, Australia/New Zealand, and Japan. Final test reports are available to customers upon request.
Compliance	TAA, RoHS (Reduction of Hazardous Substances).
Country of Origin	USA

### PART NUMBERS

10G-PCIE2-8CS-2S-SYNC+MVA	Timecode enabled network adapter with Dual SFP+ 10GbE ports and Myricom MVA software.
Cables and transceivers	Contact your Account/Sales representative for more information on cables and transceivers that are compatible with this adapter.
Warranty and add-on support	Three years for hardware defects and 90 days for software defects. 90 days of “getting started” telephone and email support as well as any software upgrades shipped within that window. Refer to the support datasheet for options extending the 90-day window.

The information contained herein is subject to change without prior notice. For the latest detailed information contact your representative at +1 (626) 821-5555 or visit [www.cspi.com/products](http://www.cspi.com/products).

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