

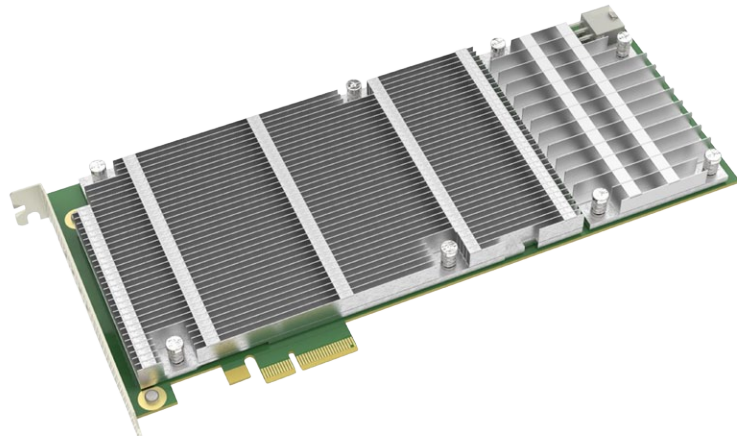
SharpStreamer™ PCIe-7207

High-Density Video Accelerator

Data Sheet

Off-the-Shelf High-Density Video Transcoding Accelerator Card

- Offering the only server-based approach.
- No dedicated appliances.
- Higher H.264/AVC and H.265/HEVC transcoding density.



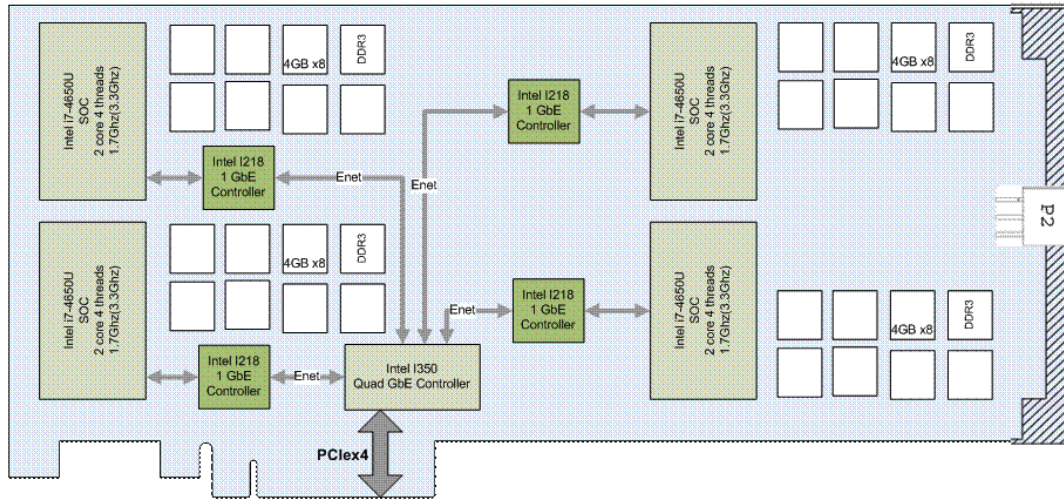
The Artesyn SharpStreamer™ PCIe-7207 high-density video accelerator enables service provider networks to offer video transcoding services quickly and dynamically. As an add-on card, the SharpStreamer PCIe-7207 offers quick and scalable integration with existing and standard server architectures to meet the demands of ISPs and MSOs who want to use existing servers and cloud infrastructure to support new video transcoding services.

With a focus on the high-density and low power demands of video streaming applications such as OTT streaming servers, mobile network optimization, video conferencing and broadcast equipment, Artesyn employs multiple Intel i7 and GPU accelerated devices in a small and scalable PCI Express card footprint that is easily deployable in off the shelf platforms. Each SharpStreamer PCIe-7207 is capable of up to 72 streams of 1080p H.264 transcodes, or 8 streams of 1080p H.265/HEVC transcodes.

Compared to dedicated appliances the SharpStreamer solution is more easily deployable, portable, and does not constrain operators to only one type of equipment to monetize OTT streaming content. It also offers network scalability for increased subscribers to pay as you go adding more cards and density from small to large servers as needed. Compared to software-only solutions, the SharpStreamer PCIe-7207 requires far fewer servers and much less operational cost to power video transcoding services.

The SharpStreamer PCIe-7207 is equipped with a Software Development Kit comprised of the Intel Media SDK with Intel® HD Graphics' fixed-function hardware acceleration, monitoring and processor subsystem O/S and management tools for easy integration with server host processing environments.

Hardware Overview & Block Diagram



Hardware

Each SharpStreamer PCIE-7207 card supports four Core i7 processor subsystems. Each subsystem communicates with the host server over their own Gigabit Ethernet link and supports 8GB of DDR3-1600 dual channel memory for a total of 32GB for the entire card. The SharpStreamer PCIE-7207 card uses power from both the PCI express slot and an on-board auxiliary power connector. The card has been designed to integrate into today's industry leading NEBS- ready platforms.

MAIN CHIPSET**

(4) Intel Dual Core i7-4650U Processors 1.7 GHz (3.2 GHz @ Turbo Mode)

PROCESSOR GRAPHICS

- Intel Iris™ Graphics (GT3)
 - Graphics Base Frequency 200 MHz
 - Graphic Max Dynamic Frequency 1.1 GHz

MEMORY

- 32 GB Dual Channel DDR3-1600
 - 8 GB per Processor Subsystem

**Please note these values are subject to change

HOST INTERFACES

- PCI express x4 Gen 2.0
 - Intel i350 Quad Gigabit Ethernet Controller

EXTERNAL INTERFACES

- 12V DC Auxiliary Power
 - 6 pin Molex Connector

POWER REQUIREMENTS**

- Estimated Peak Electrical Power: 180W
- Estimated TDP: 65W

TEMPERATURE CHARACTERISTICS**

- Normal operation: 0 °C to 40 °C
- NEBS exceptional operation: 0 °C to 55 °C
 - [in suitable enclosure]

RELEVANT CARD SIZE

- Full Height; ¼ Length: H x L: 111.15 mm X 239.83 mm
- Single width

RELEVANT STANDARDS

- PCI-SIG PCI Express Base Specification rev. 2.0

HARDWARE ACCELERATED CODECS

- H.264
- H.265 (Decode only)
- MPEG-2
- MJPEG (Decode only)
- VC-1 (Decode Only)
- VP8

VIDEO PROCESSING APIS

- Composition
- Scaling
- Color-Space Conversion
- De-noise
- Adaptive De-Interlace
- Interpolated Frame Rate Conversion

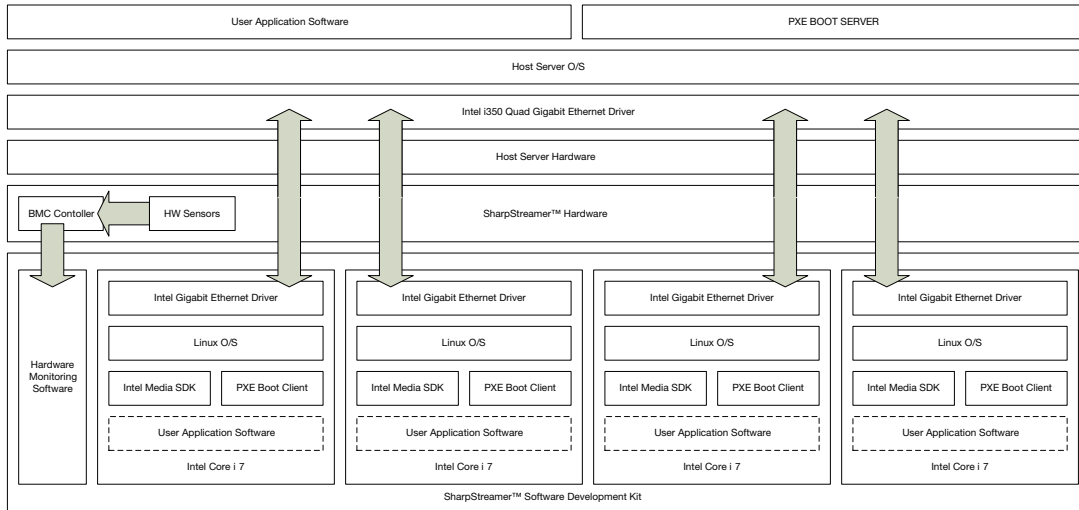
Representative Performance

of 1080P30 Transcode Channels

# of SharpStreamer (s)	1	2	4	6	16
H.264 (AVC)	48	96	192	288	768
HEVC	4	8	16	24	64

*Table to be used as reference point based on Intel projected performance per processor. For actual performance, please consult your local Artesyn Field Application Engineer (FAE).

Software Block Diagram



Software Development Kit

Includes:

- The Intel® Media Software Development Kit (Intel® Media SDK)
 - Network bootable Linux Operating System for each processor subsystem
- Remote console access to BIOS and OS
- Hardware Monitoring Software
- To communicate with the card from the host, the card utilizes the on-board Intel i350 Quad Ethernet Controller and provided network drivers
- The card's processor subsystems can be communicated with over Ethernet from the host. Each processor's Linux O/S includes the Ethernet driver.

Intel Media SDK:

The Intel® Media Software Development Kit (Intel® Media SDK) contains an application programming interface (API) library for developing media applications. The kit makes it easier for developers to optimize their applications with the use of Intel® HD Graphics' fixed-function hardware acceleration. Some application use cases which can benefit from this acceleration include video processing, transcoding and video conferencing.

Network Bootable Operating System:

- First Release: Centos 6.x
- Second Release: Ubuntu 12.x

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