

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



VERIZON & INTEL® NETWORK BUILDERS
INNOVATION CHALLENGE

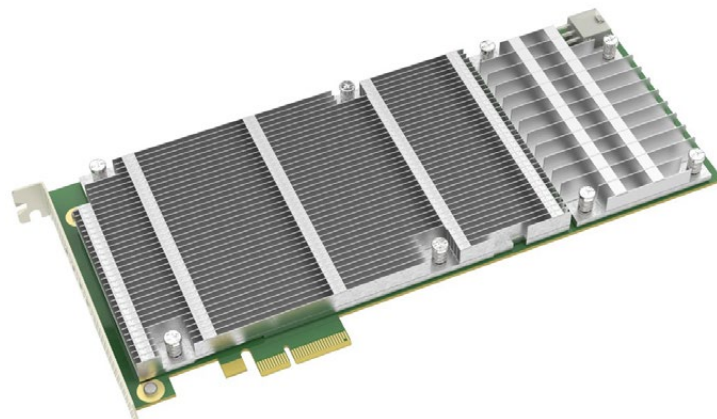


The Artesyn SharpStreamer™ PCIe-7207 high-density video accelerator enables service provider networks to offer video transcoding services quickly and dynamically. As an add-on card, the SharpStreamer PCIe-7207 offers quick and scalable integration with existing and standard server architectures to meet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

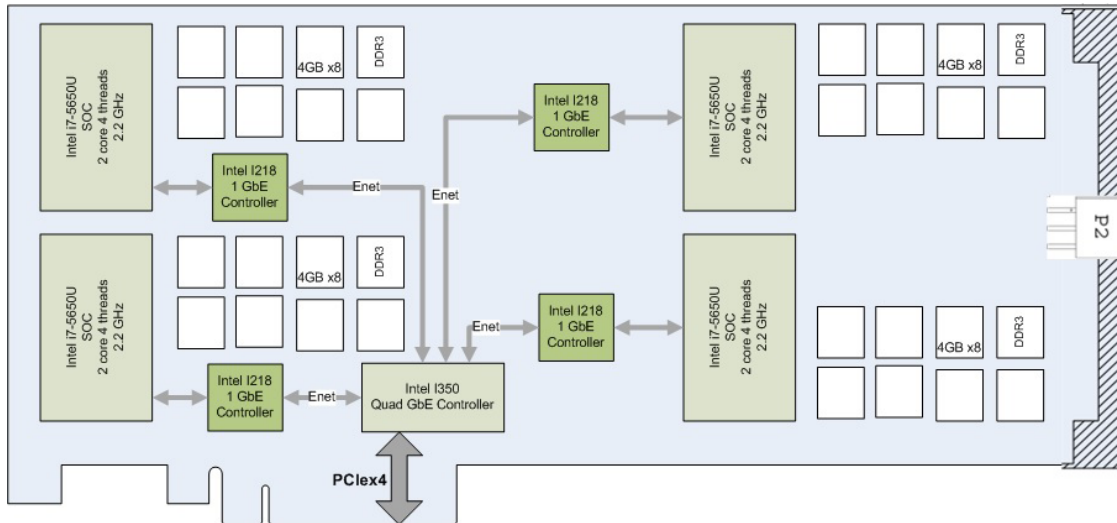
With a focus on the high-density and low power demands of video streaming applications such as OTT streaming servers, mobile network optimization, video conferencing and broadcast equipment, Artesyn employs multiple Intel® Core™ i5 or i7 processors and GPU accelerated devices in a small and scalable PCI Express card footprint that is easily deployable in off-the-shelf platforms. Each SharpStreamer PCIe-7207 is capable of up to 44 streams of 1080p H.264 transcodes, or 4 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 runtime files with the Intel® HD Graphics 6000 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 Intel® Core™ i5 or 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) Dual-core Intel Core i7-5650U Processors 2.2 GHz or
- (4) Dual-core Intel Core i5-5350U Processors 1.8 GHz

PROCESSOR GRAPHICS

- Intel® HD Graphics 6000
 - Graphics base frequency 300 MHz
 - Graphic max dynamic frequency 1.0 GHz

MEMORY

- 32 GB dual channel DDR3-1600
 - 8 GB per processor subsystem

■ 4 MicroSD slots

**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: 120 W

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; ¾ 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 (Partial acceleration)
- MPEG-2
- MJPEG (Partial acceleration decode only)
- VC-1 (Decode only)
- VP8 (Partial acceleration)

VIDEO PROCESSING APIS

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

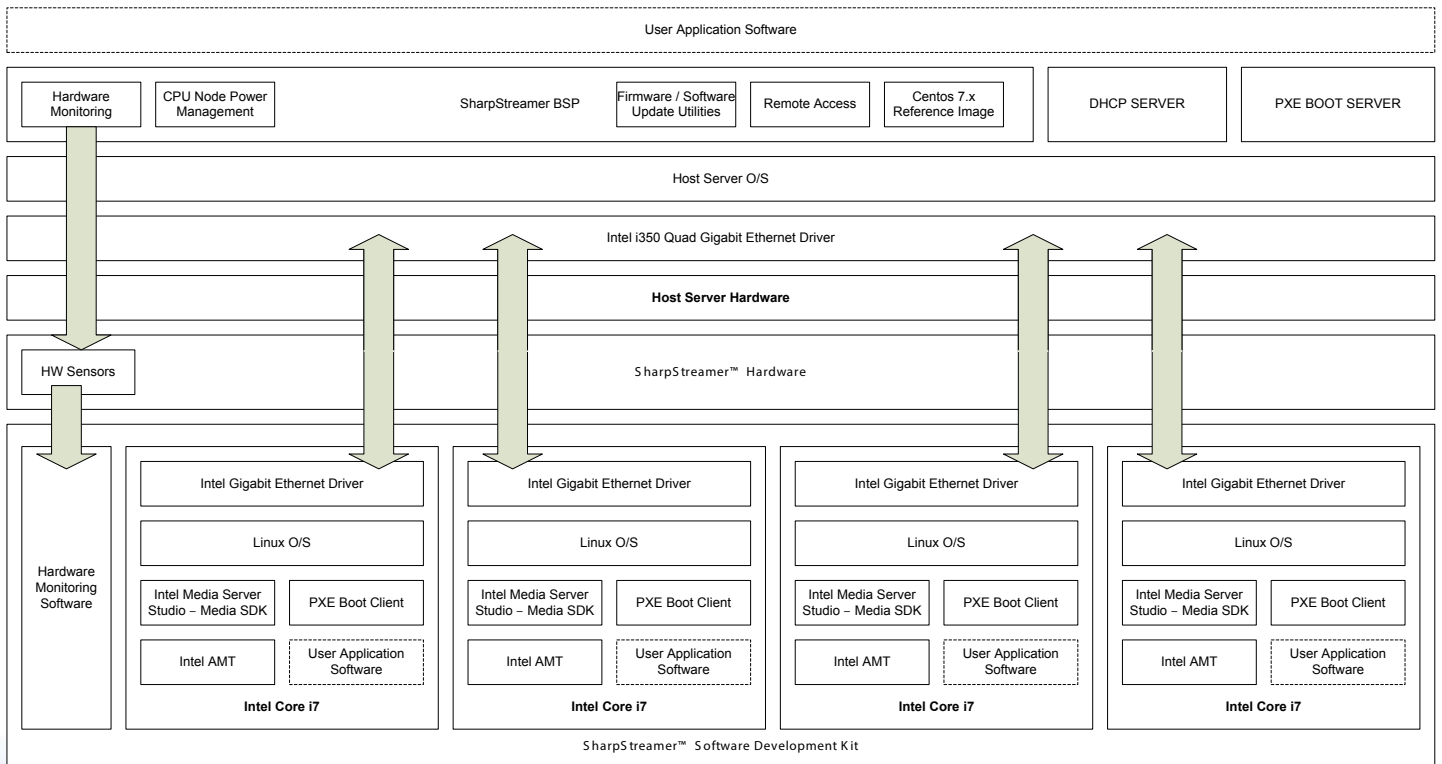
Representative Performance

of 1080P30 Transcode Channels

# of SharpStreamer(s)	1	2	4	14
H.264 (AVC)	44	88	176	616
HEVC	4*	8	16	56

*Preliminary performance based on 3rd party software benchmark testing. HEVC performance may increase with ongoing benchmark testing in progress. For actual performance results for specific applications please contact your Artesyn FAE.

Software Block Diagram



Ordering Information

SharpStreamer Cards	Description
PCIE-7207-4	SharpStreamer video processing card with 4x dual-core Intel® Core™ i7-5650U Processors 2.2 GHz
PCIE-7207-4-i5	SharpStreamer video processing card with 4x dual-core Intel® Core™ i5-5350U Processors 1.8 GHz

Software Development Kit

Includes:

- Network bootable Linux Operating System for each processor subsystem with Intel® Media Server Studio - Essentials Edition SDK runtime files
- Remote console access to BIOS and OS
- Hardware monitoring software
- Host side Artesyn firmware and software update tools
- The card's processor subsystems can be communicated with over Ethernet from the host. Each processor's Linux OS includes the Ethernet drive.
- Host system must have Intel® i350 Quad Gigabit Ethernet driver installed for proper communication with card

Intel Media Server Studio Media SDK:

SharpStreamer™ SDK comes packaged with Intel® Media Server Studio - Essentials Edition runtime files. For development purposes, Intel Media Server Studio - Essentials Edition must be downloaded and installed on the each Intel® Core™ i7 node. The Intel Media Server Studio 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 the Intel® HD Graphics 6000 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 7.x

SOLUTION SERVICES

Artesyn Embedded Technologies provides a portfolio of solution services optimized to meet your needs throughout the product lifecycle. Design services help speed time-to-market. Deployment services include global 24x7 technical support. Renewal services enable product longevity and technology refresh.

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