

PRODUCT BRIEF

Remote Workstation, Cloud Gaming, Dense Media Transcode

Intel® Visual Compute Accelerator 2



Delivering the Visual Cloud. Faster.



Growth of the Visual Cloud

The Visual Cloud continues to grow explosively, with video content alone accounting for 82% of consumer internet traffic and 75% of mobile data traffic in 2016.¹ Additionally any-device, anywhere demand is driving proliferation of remotely provisioned graphics. Enterprise IT departments and SaaS providers are in need of solutions that can manage increasing volume of graphic intensive content and deliver high-fidelity experiences to their customers.

Accelerating Graphic Intensive Workloads

To meet this demand, Intel delivers purpose built accelerators to boost performance for visual computing workloads. The Intel® Visual Compute Accelerator 2 (Intel® VCA 2) enables you to deliver the rich visual experiences end users seek. Whether you deliver HD and UHD video in the cloud, or complex 3D applications from secure data centers, Intel® VCA 2 has the horsepower to handle the most demanding workloads.

With three Intel® Xeon® processors E3-1500 v5 and the energy efficient Intel® Iris™ Pro Graphics P580, this PCIe* accelerator card delivers cutting edge rendering performance per watt for server systems based on the Intel Xeon® Scalable and Intel Xeon processor E5 family. For OTT content providers and telecommunications service providers, Intel VCA 2 takes the next step in transcode density, adding HEVC encode into the Quick Sync Video portfolio of accelerated codecs.

Outstanding Performance/Power

- Equips Intel® Xeon® Scalable and Intel® Xeon® Processor E5-based Server Systems with the impressive rendering performance of P580 Iris® Pro Graphics and hardware accelerated QuickSync Media Transcode
- PCIe x8 to each of three on-board Intel Xeon processor E3-1500L v5 nodes supports highly bandwidth intensive media ingest
- Baremetal Windows* support
- Flexible and portable software architecture
- Multiple 1U and 2U server system options
- Strong ISV ecosystem for ease of solution deployment

Intel VCA 2 builds on the success of the first generation Intel VCA accelerator card, based on the Intel Xeon processor E3-1200 v4 product family. Delivering broadcast video quality at high density, and outstanding graphics TCO, Intel VCA has established a footprint with Tier 1 media content providers, and leading HPC Cloud Service Providers.

Deliver Amazing Experiences

Intel VCA 2 is ideal for delivering HD and UHD video from media clouds, and for delivering complex 3D applications from HPC clouds and secure data centers, and has the power to handle the most demanding workloads.

Remotely Provisioned Graphics

- Remote Workstation delivered from HPC-centric clouds and on-premises data centers
- Reduce cost, secure data, enable worker mobility

Remote Gaming

- Single user or multi-party gaming from any device, anywhere
- Immersive social experiences

Video consumption

- File-based, Just-in-Time, and Live consumption and creation
- Bandwidth efficient media delivery for next day TV, user-generated content upload, and high visual quality broadcast

Multi-party calling with Intel® Collaboration Suite for WebRTC

- Enable secure calling, social calling, and interactive meetings
- Cost effective communications with massive scale

Built with Intel® Quality, Reliability and Performance

Intel® Server Products are backed by Intel's design excellence and manufacturing expertise to deliver processing power with high levels of flexibility, manageability and reliability. Product and design quality is paired with 3-year standard warranties and robust technical and incident resolution support to ensure customer satisfaction.

MEDIA TRANSCODE

Number of real time streams per card @ 30fps

1080p	H.264 → H.264	44
	H.264 → H.265	39
	H.265 → H.265	21
4K	H.264 → H.264	14
	H.264 → H.265	11
	H.265 → H.265	7

GRAPHICS RENDERING

SPECviewperf²

3dsmax-05	18.04
catia-04	19.25
creo-01	13.57
energy-01	0.42
maya-04	20.94
medical-01	7.92
showcase-01	11.65
snx-02	13.14
sw-03	33.72



PRODUCT SPECIFICATIONS

VCA 2	
Form Factor	Full-length, full-height, double-width PCIe* card, 235 W TDP
CPU	3x Intel® Xeon® processor E3-1585L v5, 45W TDP, 3.0GHz, base frequency 4 cores
Graphics	Intel® Iris™ Pro graphics P580 (GT4e), 128MB eDRAM
PCH	C236
Memory	DDR4 2133MHz (1.2V), ECC SODIMMs, 2 channels per processor, up to 64GB per processor
PCI Express* Configuration	PCIe* 3.0, x16, 8 lanes per processor
BIOS	16MB SPI Flash
Optional storage	168GB SSD, M.2
Operating System Support	CentOS* 7.2, Windows* 10 and Windows Server* 2016 Xen* and KVM hypervisors

PROCESSOR SPECIFICATIONS

VCA 2	
Processor Number	E3-1585L v5
# of Cores	4
Processor Base Frequency	3.0 GHz
Max Turbo Frequency	3.7 GHz
TDP	45 W
Max Memory Size	64 GB
ECC Memory Supported	Yes
Processor Graphics	Intel® Iris™ Pro Graphics P580
Graphics Base Frequency	350 MHz
Graphics Max Dynamic Frequency	1.0 GHz (capped in BIOS)
Graphics Video Max Memory	64 GB
Execution Units	72
Intel® Quick Sync Video	Yes

ORDER CODES

VCA 2			
Product	Order Code	Type	Description
Intel® VCA2	VCA1585LMV	PCIe* Card	Media and Graphics Accelerator with 3 x Intel® Xeon® processor E3-1585L v5



Additional Resources

For product specifications visit: ark.intel.com

For more information on the Intel® VCA 2 visit: intel.com/accelerators

For more information on Intel® Server Products and Solutions visit: intel.com/serverproducts

1. Cisco Visual Networking Index, 2016
2. Performance per node. Three nodes per card.
3. Intel benchmarking. For more complete information about performance and benchmark results, visit www.intel.com/benchmarks.

Intel Visual Compute Accelerator (VCA) Family

Performance Benchmarks—System Configurations, Media Transcode

Host Platform

Intel Server System R2208WTTYS
Intel® Xeon® CPU E5-2650 v3 @ 2.30GHz
OS: CentOS 7.2
32GB DDR4 2133 MHz
Intel® Hyper-threading Technology enabled
SSD: Intel SSDSC2BB800G4 (800GB);
FW revision D2010370

VCA

Intel® Xeon® processor E3-1283L v4 @ 2.90 GHz, Ring @2.90GHz and GT @1.00GHz
Intel® Iris™ Pro Graphics 6300
BIOS: VCA-BIOS_0ACGC303_0AC IE104_201702031022
Driver: 1.5.164
Memory: 32GB DDR3 1600MHz, 2 channels (16GB/channel)

VCA 2

Intel® Xeon® processor E3-1585L v5 @ 3.0GHz, Ring @ 3.0GHz and GT @1.00GHz
Intel® Iris™ Pro Graphics P580
BIOS: VCA-BIOS_0ACGC303_0AC IE104_201702031022
Driver: 1.5.164
Memory: 32GB DDR4 2133MHz, 2 channels (16GB/channel)

Media Configuration:

MediaSDK version: 16.5. Target Usage: 7.
Target transcoding bit rate: 50M bps (QuickSync default bit rate control mode).
Video format: 8-bit 4:2:0

Intel Visual Compute Accelerator Family

Performance Benchmarks—System Configurations, Graphics Rendering

Host Platform

Intel Server System S2600WT2 version H21573-360
Intel® Xeon® CPU E5-2687W v4 @ 3.0GHz
OS: CentOS 7.3
32GB DDR4 2133 MHz
Intel® Hyper-threading Technology enabled
SSD: Intel SSDSC2BB800G4 (800GB); FW revision D2010370

VCA 2

Intel® Xeon® processor E3-1585L v5 @ 3.0GHz, Ring @ 3.0GHz and GT @1.00GHz
Intel® Iris™ Pro Graphics P580
BIOS: VCA-BIOS_0ACGC304_0AC IE106_201703211027
Driver: 2.0.187
Memory: 32GB DDR4 2133MHz, 2 channels (16GB/channel)

Graphics Configuration:

SPECviewperf version 12.1
Resolution:1900x1060



Product does not include memory, processors, or hard drives. For compatibility information please refer to the configuration guide at www.intel.com/support.

Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products. For more complete information visit <https://www.intel.com/performance>.

Results have been estimated or simulated using internal Intel analysis or architecture simulation or modeling, and provided to you for informational purposes. Any differences in your system hardware, software or configuration may affect your actual performance.

Intel technologies, features and benefits depend on system configuration and may require enabled hardware, software or service activation. Performance varies depending on system configuration. No computer system can be absolutely secure. Check with your system manufacturer or retailer or learn more at ark.intel.com.

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