



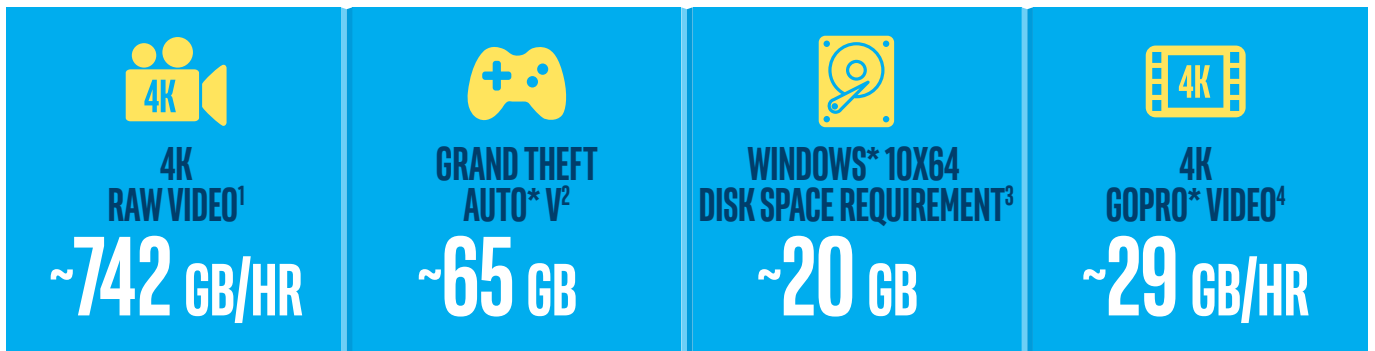
# INTEL® OPTANE™ MEMORY

## ACCELERATING PC PERFORMANCE LIKE NEVER BEFORE

Provide your customers an unprecedented PC performance experience with Intel® Optane™ Memory. This new premium class of memory when paired with a 7th Gen Intel® Core™ processor based PC delivers the speed customers expect, and high-performance responsiveness for almost everything – from checking email and surfing the web to watching 4K content and gaming to business productivity workloads.

### PERFORMANCE COMPUTING IS GROWING

As the amount of data generated increases, so will the need for large capacity storage...



...but typically, choosing large local storage can result in lower overall system performance.

### OFFER A NEW LEVEL OF STORAGE SPEED AND RESPONSIVENESS

Intel® Optane™ Memory with 7th Gen Intel® Core™ processors deliver:



# PERFORMANCE BENEFITS FROM INTEL® OPTANE™ MEMORY

Discover how a 16GB Intel® Optane™ Memory coupled with 1TB HDD provides better performance and responsiveness than 1TB HDD without Intel® Optane® Memory.

## MAINSTREAM



### OFFICE PRODUCTIVITY<sup>5</sup>

UP TO  
**2X** MORE  
RESPONSIVE



### STORAGE PERFORMANCE<sup>6</sup>

UP TO  
**14X** FASTER



### PC BOOT TIME<sup>7</sup>

UP TO  
**2X** FASTER

## ENTHUSIAST



### GAME LAUNCH<sup>8</sup>

UP TO  
**67%** FASTER



### GAME LEVEL LOAD<sup>8</sup>

UP TO  
**65%** FASTER



### OPEN LARGE MEDIA<sup>9</sup>

UP TO  
**4.1X** FASTER

## BUSINESS



### EMAIL LAUNCH<sup>10</sup>

UP TO  
**5.8X** FASTER



### PRESENTATION LAUNCH<sup>11</sup>

UP TO  
**3.8X** FASTER



### WINDOWS\* FILE SEARCH<sup>12</sup>

UP TO  
**4X** FASTER

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 information, go to <http://www.intel.com/benchmarks>

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 [intel.com](http://intel.com).

<sup>1</sup><http://www.4kshooters.net/2014/06/25/how-much-hard-disk-space-do-you-need-shooting-4k/>

<sup>2</sup><https://support.rockstargames.com/hc/en-us/articles/203428177-Grand-Theft-Auto-V-PC-System-Spec>

<sup>3</sup><https://www.microsoft.com/en-us/windows/windows-10-specifications>

<sup>4</sup><http://shop.gopro.com/cameras>

<sup>5</sup>SYSmark® 2014 SE (Responsiveness Subscore) - SYSmark is a benchmark from the BAPCo® consortium that measures the performance of Windows® platforms.

<sup>6</sup>PCMark® Vantage (HDD Suite) - Benchmark from Futuremark® that measures Windows® everyday computing performance.

<sup>7</sup>OS Load Time Workload - Workload developed by Intel® measuring the time elapsed from initiating power-on (from powered-off state) until the operating system has completed loading.

<sup>8</sup>Game Launch & Level Load Workload - Workload developed by Intel® measuring the time elapsed to launch Bethesda. Softworks® Fallout 4 and reach the Main Menu with intro videos disabled (Launch), and the time elapsed from the Main Menu to completion of level loading (Level Load).

<sup>9</sup>Media Project Load Workload - Time elapsed to load a 500MB video project file in Adobe® Premiere Pro (CS6)

<sup>10</sup>Email Launch Workload - Workload developed by Intel measuring the time elapsed to launch Microsoft® Outlook 2016 and load with a 250mb local data file.

<sup>11</sup>Presentation Launch Workload - Time elapsed to launch the Microsoft® Powerpoint 2016 application with a 3.5MB presentation file.

<sup>12</sup>File Search Workload - Time elapsed to load a 500MB video project file in Adobe® Premiere Pro (CS6)

#### System Configuration

- Baseline (HDD): Intel® Core™ i5-7500 Processor, 65W TDP, 4C4T, Turbo up to 3.8GHz, Memory: 2x4GB DDR4-2400, Storage: Western Digital® 1TB 7200RPM WD1003FZEX, Intel HD Graphics 630, OS: Windows® 10.
- Intel® Optane™ Memory: Same configuration as above with 16GB Intel® Optane™ Memory Module (Engineering Sample).
- Gaming workloads were tested with same configuration, except using a discrete graphics card (NVIDIA® (EVGA) GTX 1080) with and without 16GB Intel® Optane™ Memory Module.
- Tested with 16GB Intel® Optane™ Memory Engineering Samples. Results may vary in final product, but we have a high confidence level that there will be no significant differences in performance.

Note: All, Intel® Optane™ memory testing was conducted on 7th Gen Intel® Core processors. All Queue Depth testing was conducted on 6th Gen Intel® Core™ processors.

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