ACCELERATING WORKSTATION PERFORMANCE
FOR AN EVOLVING WORLD
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HUGE DEMAND FOR
IMPROVED VISUALIZATION

MANUFACTURING

MEDIA

ARCHITECTURE

VISUALIZATION TECHNOLOGIES

AUGMENTED & VIRTUAL REALITY

PHOTOREALISTIC RENDERING
The Evolution of Professional Workflows

Workstation GPU Segmentation

- Traditional 2D CAD is rapidly fading away
- Growing demand for GPU performance
- High quality visualization is becoming commonplace in all aspects of professional design workflows
INTRODUCING

AMD RADEON™ PRO WX 8200
8 GB HBM2 MEMORY
UP TO 512 GB/s MEMORY BANDWIDTH
56 COMPUTE UNITS*
UP TO 11 TFLOPS FP32
4X DISPLAY OUTPUTS
8K DISPLAY SUPPORT
ISV CERTIFICATIONS AND PARTNERSHIPS

DASSAULT SYSTEMES  ptc  AUTODESK  Rhinoceros  FOUNDRY

SIEMENS  SOLIDWORKS  Bentley  SketchUp  Blackmagic Design

ANSYS  MSC Software  VECTORWORKS  GRAPHISOFT ARCHICAD  Houdini

Altair  UNREAL ENGINE  unity  blender
CUTTING EDGE INNOVATION
ENABLING MISSION-CRITICAL WORKFLOWS

RADEON™ PRORENDER

RADEON™ PRO RELIVE

DRIVER OPTIONS
ProRender Hybrid combines the realistic light effects of ray-tracing with the speed of rasterization.

Up to 22% performance uplift over GPU alone*
PERFORMANCE
MEDIA & ENTERTAINMENT

NUKE
PREMIERE PRO
MAYA

RADEON PRO WX 8200
QUADRO P5000
QUADRO P4000

*SEE ENDNOTES
PROFESSIONAL VR LEADERSHIP

VRMARK CYAN ROOM

RADEON PRO WX 8200
QUADRO P5000
QUADRO P4000

*SEE ENDNOTES

CONFIDENTIAL | UNDER AMD EMBARGO UNTIL 9 AM EST AUGUST 12, 2018
PERFORMANCE
COMPUTER-AIDED DESIGN

Frames per second average:
- Maya
- 3DS Max
- Creo
- NX
- CATIA
- SOLIDWORKS

Monitor refresh rate limit:
- 120 – 144 Hz

Minimum User Experience:
- ~15 – 40 FPS

*SEE ENDNOTES
GPU MULTITASKING
THE NEW WORKFLOW REALITY

DESIGN + RENDER
AT THE SAME TIME!
GPU MULTITASKING
WITH THE COMPETITION
Choose between graphics or compute tasks
GPU MULTITASKING
AVERAGE 13x FASTER*

**BLENDER/CYCLES RENDER TO COMPLETION**
(DURING SPECviewperf® 13 RUN)

**P5000**
- **AVERAGE**: 119 min

**WX 8200**
- **AVERAGE**: 87 min

**SPECviewperf® 13 (+BLENDER/CYCLES IN BACKGROUND)**

**Quadro P5000**
- **Radeon™ Pro WX 8200**
- **MINIMUM USER EXPERIENCE** (~15 – 40 FPS)

**RENDER AND DESIGN AT THE SAME TIME!**

*SEE ENDNOTES*
AMD RADEON™ PRO WX 8200
INCREDIBLE PERFORMANCE

VR

CAD

M&E

RADEON PRO WX 8200
QUADRO P5000
QUADRO P4000

AVERAGE 13X
FASTER MULTITASKING PERFORMANCE THAN NVIDIA’S QUADRO P5000

*SEE ENDNOTES
WORLD’S BEST WORKSTATION GRAPHICS PERFORMANCE* FOR $999

*Pricing USD, SEP. See Endnotes
RADEON™ PRO WX 8200
PUTTING THE PRO IN PRODUCTIVITY

93%
DRIVER PASS RATE*

RELIABILITY

RADEON™ PRORENDER
RADEON™ PRO RELIVE
DRIVER OPTIONS

INNOVATION

PERFORMANCE**

13X
FASTER MULTITASKING PERFORMANCE

VR
CAD
M&E
Rendering

*IN MAY 2018, AMD COMMISSIONED QA CONSULTANTS TO EVALUATE THE STABILITY OF SEVERAL OF THE LATEST GRAPHICS DRIVERS FROM BOTH AMD AND NVIDIA. SEE PAGE 1 OF THE "GRAPHICS DRIVER QUALITY - DETERMINATION OF STABILITY FROM LEADING MARKET VENDORS" REPORT AT HTTPS://WWW.AMD.COM/SYSTEM/FILES/DOCUMENTS/GRAPHICS-DRIVER-QUALITY.PDF FOR MORE DETAILS.
**SEE END NOTES FOR DETAILS
THANK YOU!
ENDNOTES

Slide 6:
AMD Radeon™ and FirePro™ GPUs based on the Graphics Core Next architecture consist of multiple discrete execution engines known as a Compute Unit (“CU”). Each CU contains 64 shaders (“Stream Processors”) working together. GD-78

Slide 11:
Testing conducted by AMD Performance Labs as of July 16th, 2018, on a Gigabyte X399 Aorus Gaming 7 motherboard test system comprising of AMD Threadripper 2990WX 32-core processor@ 3.0 GHz, 64GB DDR4 system memory, 512GB Samsung 961 NVMe drive, Microsoft® Windows® 10 64-bit OS, AMD Radeon™ Pro WX 8200 graphics. AMD Radeon™ Pro internal driver 18.20. Benchmark Applications: AMD Radeon™ ProRender (Internal Build). Performance measured using the internal “Ferrari_Demo” model @ 1920x1000 resolution. AMD Radeon Pro WX 8200 only = 314.48 ms/frame. AMD Threadripper 2990WX + AMD Radeon Pro WX 8200 = 244.02 ms/frame. Improvement = 314.48/244.02 = 22.4% Uplift. PC manufacturers may vary configurations, yielding different results. Performance may vary based on use of latest drivers.

Slide 12:
Testing conducted by AMD Performance Labs as of August 1st, 2018, on a test system comprising of Intel E5-1650 v3, 16GB DDR4 system memory, Samsung 850 PRO 512GB SSD, Windows® 10 Enterprise 64-bit, Radeon™ Pro WX 8200, NVIDIA Quadro P4000, NVIDIA Quadro P5000, AMD graphics driver 18.20-180713a, NVIDIA graphics driver 391.74. Benchmark Application: Radeon™ ProRender. AMD Radeon™ Pro WX 8200 score: 39 seconds. NVIDIA Quadro P5000 score: 48 seconds. NVIDIA Quadro P4000 score: 58 seconds. Performance Differential: 1-39/48 = 18.75% better score on Radeon™ Pro WX WX 8200 than on NVIDIA P5000. Performance Differential: 1-39/58 = 32.76% better score on Radeon™ Pro WX WX 8200 than on NVIDIA P4000. Benchmark application: Blender Cycles 2.7.9 - “Pavillon Barcelone” Scene. AMD Radeon™ Pro WX 8200 score: 405 seconds. NVIDIA Quadro P5000 score: 506 seconds. NVIDIA Quadro P4000 score: 584 seconds. Performance Differential: 1-405/506 = 20% better score on Radeon™ Pro WX WX 8200 than on NVIDIA P5000. Performance Differential: 1-405/584 = 30.6% better score on Radeon™ Pro WX WX 8200 than on NVIDIA P4000. Rendering performance represented as an average score based on results above. WX 8200 vs. P4000 = (32.76+30.65)/2 = 31.71%, WX 8200 vs. P5000 = (18.75 + 19.96)/2 = 19.36%. PC manufacturers may vary configurations, yielding different results. Performance may vary based on use of latest drivers. Performance may vary based on use of latest drivers.
ENDNOTES

Slide 13:
Testing conducted by AMD Performance Labs as of August 1st, 2018, on a test system comprising of Intel E5-1650 v3, 16GB DDR4 system memory, Samsung 850 PRO 512GB SSD, Windows® 10 Enterprise 64-bit, Radeon™ Pro WX 8200, NVIDIA Quadro P4000, NVIDIA Quadro P5000, AMD graphics driver 18.20-180713a, NVIDIA graphics driver 391.74. Benchmark Application: Foundry Nuke 11, Denoise and Motion Blur Benchmark. AMD Radeon™ Pro WX 8200 score: 29 seconds. NVIDIA Quadro P5000 score: 36 seconds. NVIDIA Quadro P4000 score: 40 seconds. Performance Differential: 1-29/36 = 19.4% better score on Radeon™ Pro WX WX 8200 than on NVIDIA P5000. Performance Differential: 1-29/40 = 27.5% better score on Radeon™ Pro WX WX 8200 than on NVIDIA P4000. Benchmark Application: Adobe Premiere Pro. AMD Radeon™ Pro WX 8200 score: 752 seconds. NVIDIA Quadro P5000 score: 897 seconds. NVIDIA Quadro P4000 score: 897 seconds. Performance Differential: 1-752/897 = 16% better score on Radeon™ Pro WX WX 8200 than on NVIDIA P5000. Performance Differential: 1-752/1825 = 58.79% better score on Radeon™ Pro WX WX 8200 than on NVIDIA P4000. Benchmark Application: Autodesk Maya 2017. AMD Radeon™ Pro WX 8200 score: 7.92. NVIDIA Quadro P5000 score: 7.64. NVIDIA Quadro P4000 score: 7.55. Performance Differential: 7.92/7.64= 3.6% better score on Radeon™ Pro WX WX 8200 than on NVIDIA P5000. Performance Differential: 7.92/7.55= 4.9% better score on Radeon™ Pro WX WX 8200 than on NVIDIA P4000. Media and Entertainment performance represented as an average score based on results above. WX 8200 vs. P4000 = (4.9+58.79+27.5)/3 = 30.40%, WX 8200 vs. P5000 = (3.66+16.16+19.44)/3 = 13.09%. PC manufacturers may vary configurations, yielding different results. Performance may vary based on use of latest drivers. Performance may vary based on use of latest drivers.

Slide 14:
Testing conducted by AMD Performance Labs as of August 1st, 2018, on a test system comprising of Intel E5-1650 v3, 16GB DDR4 system memory, Samsung 850 PRO 512GB SSD, Windows® 10 Enterprise 64-bit, Radeon™ Pro WX 8200, NVIDIA Quadro P4000, NVIDIA Quadro P5000, AMD graphics driver 18.20-180713a, NVIDIA graphics driver 391.74.Benchmark Application: VRMark, Cyan Room. AMD Radeon™ Pro WX 8200 score: 6979. NVIDIA Quadro P5000 score: 635.1. NVIDIA Quadro P4000 score: 455.0. Performance Differential: 6979/6351 = 9.9% performance than the P5000. Performance Differential: 6979/4550= 53.38% better performance on Radeon™ Pro WX WX 8200 than on NVIDIA P4000. PC manufacturers may vary configurations, yielding different results. Performance may vary based on use of latest drivers. Performance may vary based on use of latest drivers.
Slide 19:
Spider chart represents the averages of previous individual tests grouped by rendering, media and entertainment, manufacturing, and VR. Refer to end notes for slide 12, 13, 14, and 19 for full results. For multitasking workload result, refer to end note from slide 18.

Slide 20:

Slide 21:
Spider chart represents the averages of previous individual tests grouped by rendering, media and entertainment, manufacturing, and VR. Refer to end notes for slide 12, 13, 14, and 19 for full results. For multitasking workload result, refer to end note from slide 18.