



# MAKING THE BEST

AMD RADEON™ PRO SOFTWARE FOR ENTERPRISE

**QUARTERLY RELEASE**

19.Q1 FEBRUARY 11, 2019

AMD  
RADEON PRO  
**Software**  
FOR ENTERPRISE



AMD RADEON™ PRO SOFTWARE FOR ENTERPRISE  
**ACCELERATE DESIGN WORKFLOWS**

AMD  
RADEON PRO  
Software  
FOR ENTERPRISE

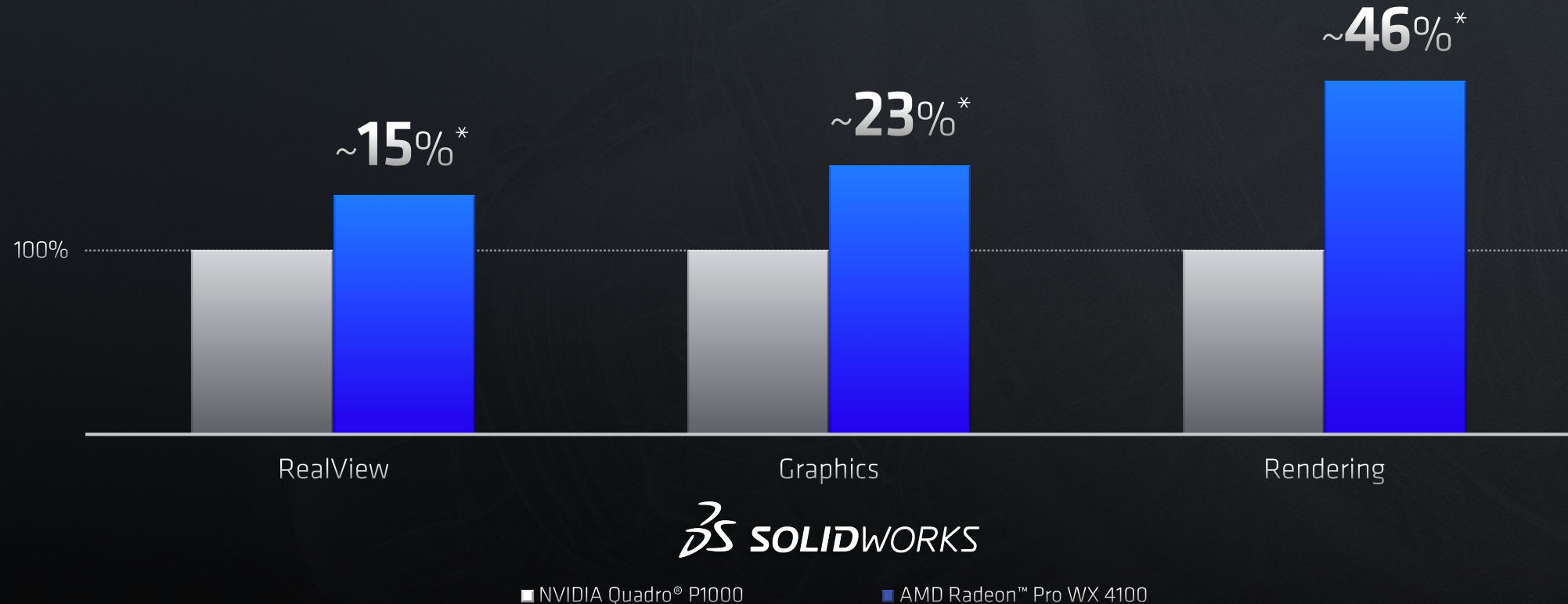
# AMD RADEON™ PRO SOFTWARE KEEPS GETTING FASTER\*

\*SEE RPS-44, RPS-45, RPS-46, RPS-47, AND RPS-48 IN ENDNOTES AND LEARN MORE AT [HTTPS://WWW.AMD.COM/EN/TECHNOLOGIES/RADEON-PRO-SOFTWARE](https://www.amd.com/en/technologies/radeon-pro-software)

# SOLIDWORKS® 2019 PERFORMANCE

AMD RADEON™ PRO VS. NVIDIA QUADRO®

SOLIDWORKS® PERFORMANCE TEST 2019

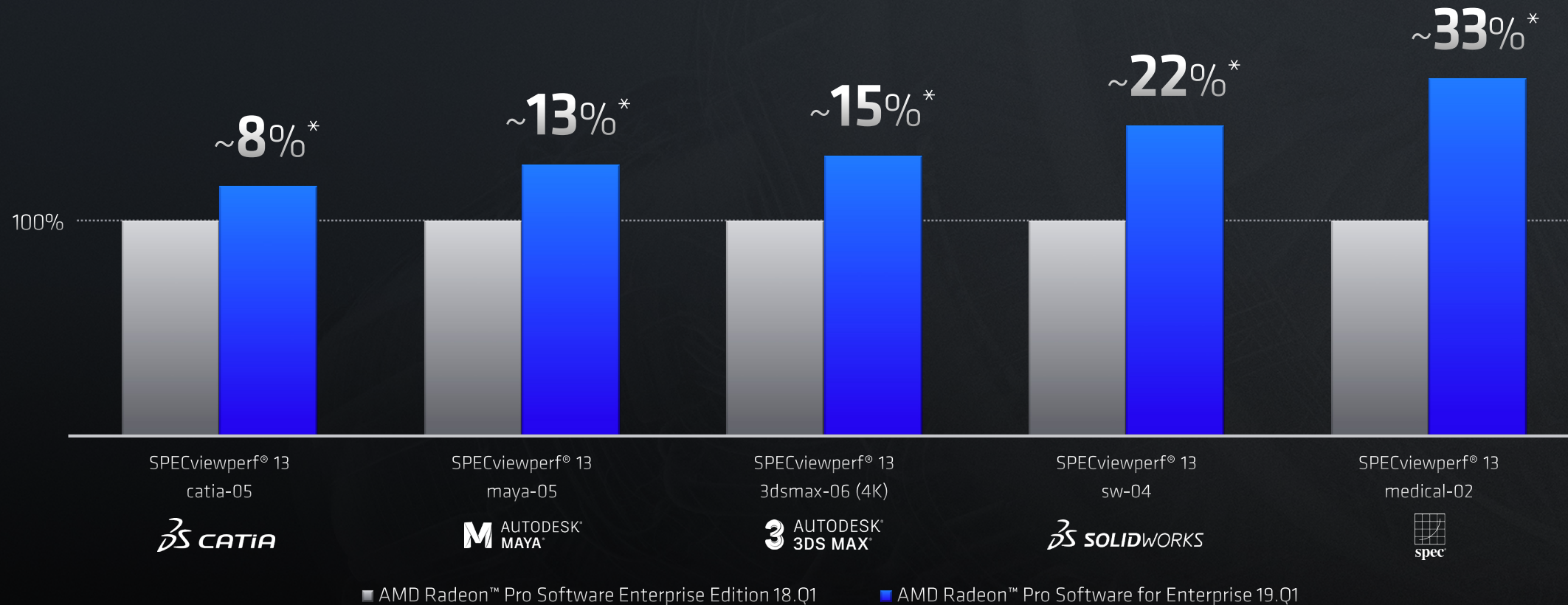




# BOOST YOUR PRODUCTIVITY

## 19.Q1 VS. 18.Q1 YEAR-OVER-YEAR PERFORMANCE IMPROVEMENTS

AMD RADEON™ PRO SOFTWARE FOR ENTERPRISE PERFORMANCE COMPARISON



USE OF THIRD PARTY MARKS/LOGOS IS FOR INFORMATIONAL PURPOSES ONLY AND NO ENDORSEMENT OF OR BY AMD IS INTENDED OR IMPLIED. GD-83  
\*SEE RPS-44, RPS-45, RPS-46, RPS-47, AND RPS-48 IN ENDNOTES. RESULTS ARE BASED ON JANUARY 2019 INTERNAL TESTING OF PRELIMINARY DRIVER AND MAY VARY WITH USE OF FINAL DRIVER



# ~40%

## MORE ISV APPLICATION DRIVER CERTIFICATIONS THAN THE COMPETITION

(WHEN COMPARING PREVIOUS ENTERPRISE DRIVERS)\*

### OVER 430

Day Zero Certifications at  
Radeon™ Pro Software for Enterprise 19.Q1 Launch

### APPLICATIONS INCLUDE

SideFX® Houdini™  
Autodesk 3DS Max®  
Autodesk Maya®  
Graphisoft ARCHICAD®  
Autodesk VRED™

Dassault Systèmes  
SOLIDWORKS®  
Autodesk Inventor®  
SIEMENS NX™  
SIEMENS Solid Edge®

\*SEE RPS-49 IN ENDNOTES

FOR MORE INFORMATION ABOUT AMD RADEON™ PRO SOFTWARE FOR ENTERPRISE 19.Q1 CERTIFICATIONS, PLEASE SEE: [HTTPS://DRIVERS.AMD.COM/RELNOTES/AMD-RADEON-PRO-SOFTWARE-FOR-ENTERPRISE-19.Q1-NO-VGI.PDF](https://drivers.amd.com/relnotes/amd-raadeon-pro-software-for-enterprise-19.q1-no-vgi.pdf)



AMD RADEON™ PRO SOFTWARE FOR ENTERPRISE  
**IMMERSIVE DESIGN VISUALIZATION**

AMD  
RADEON PRO  
Software  
FOR ENTERPRISE



# READY FOR WORKSTATION WIRELESS VR\*



Support for Standalone VR with 6DoF Tracking Technology



UNREAL STUDIO



SOLIDWORKS eDrawings

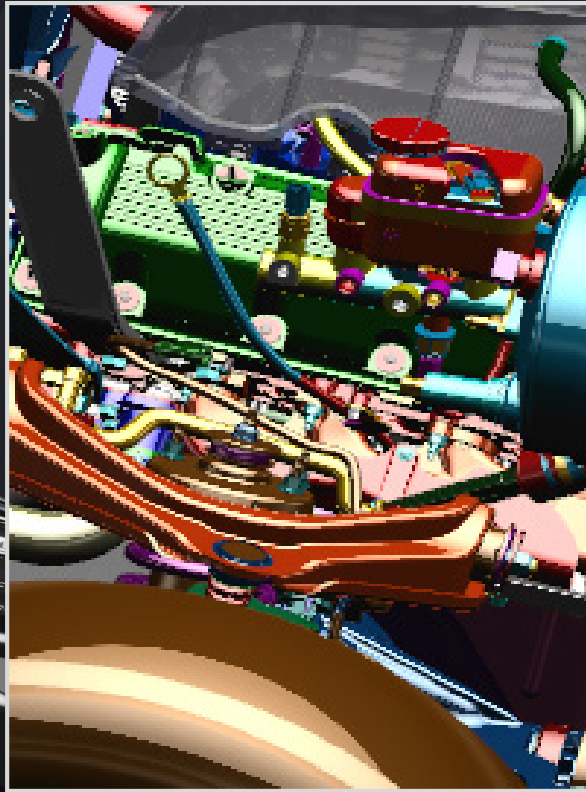
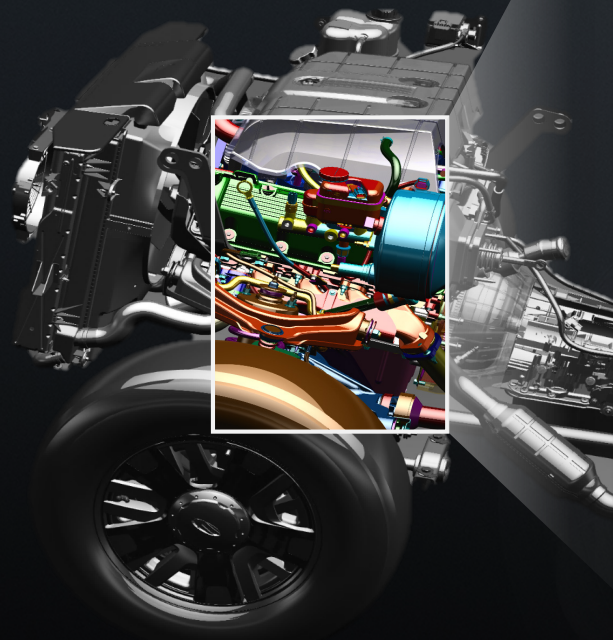
Works with Leading VR Product Design  
Visualization Applications

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\*THE AMD RADEON™ PRO SOFTWARE FOR ENTERPRISE 19.Q1 DRIVER IS READY FOR THE UPCOMING RELEASE OF AMD RADEON™ PRO RELIVE FOR VR

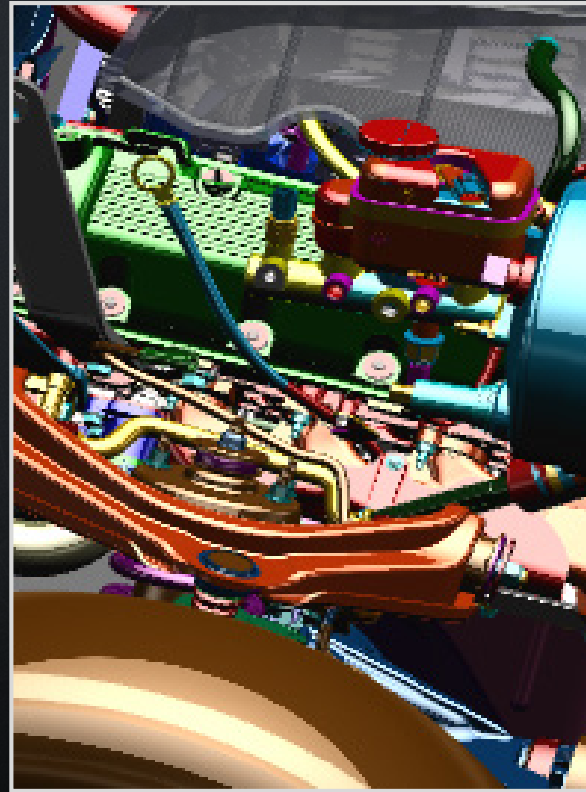


# AMD RADEON™ PRO IMAGE BOOST

(IMAGES ARE SCREEN SIMULATED)



NVIDIA® DEFAULT\*



RADEON™ PRO DEFAULT\*

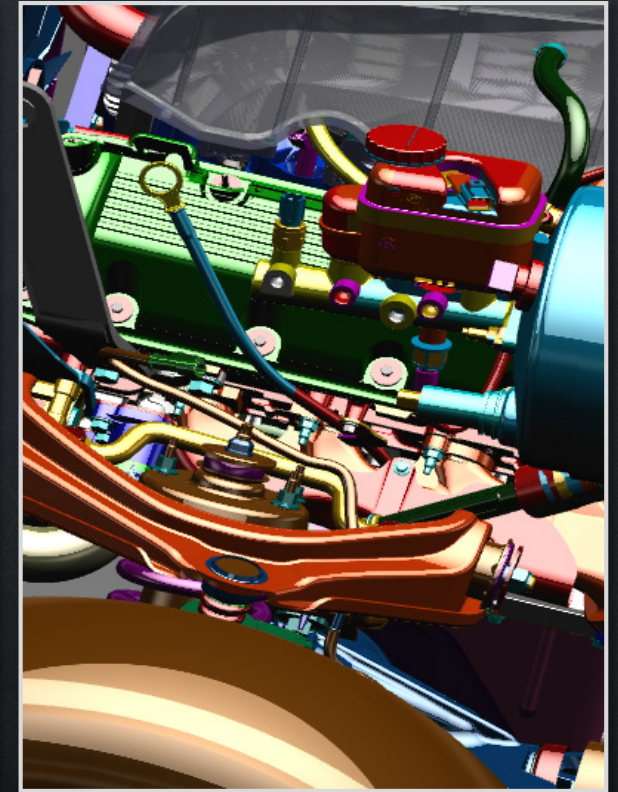


IMAGE BOOST **ON**\*



AMD RADEON™ PRO SOFTWARE FOR ENTERPRISE  
**DESIGN FROM VIRTUALLY ANYWHERE**

AMD  
RADEON PRO  
Software  
FOR ENTERPRISE

# AMD REMOTE WORKSTATION **ALWAYS ON THE GO**



Now Supports Application Virtualization Using Citrix® Virtual Apps and Desktops\*



Supports Microsoft Remote Desktop

\*CITRIX® VIRTUAL APPS AND DESKTOPS LICENSE REQUIRED. COMPATIBLE WITH: AMD RADEON™ PRO WX 4100, WX 5100, WX 7100, WX 8200, WX 9100



AMD RADEON™ PRO SOFTWARE FOR ENTERPRISE  
**CREATE WITH CONFIDENCE**

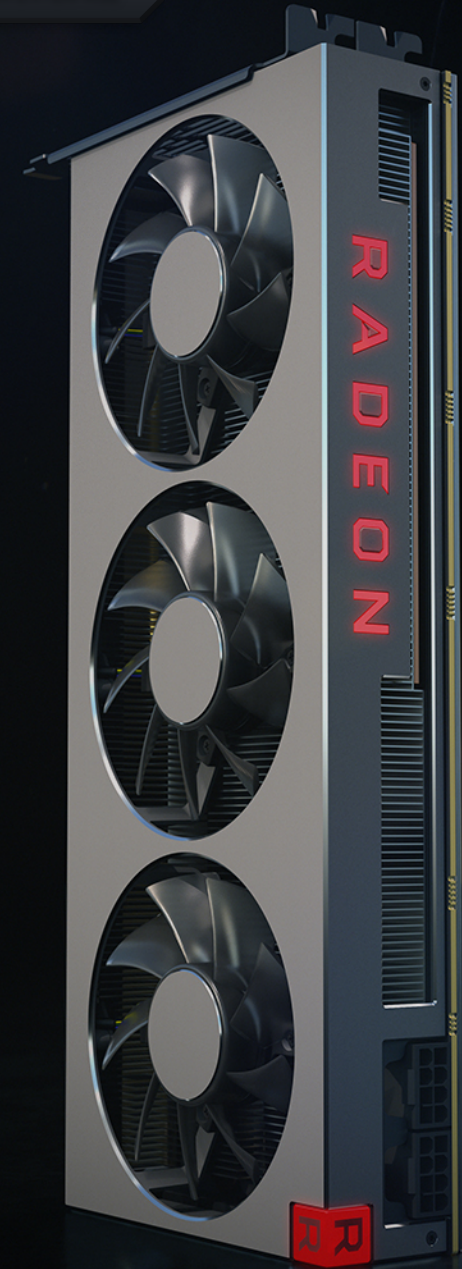
AMD  
RADEON PRO  
Software  
FOR ENTERPRISE

“ONE DRIVER” SUPPORT COMING SOON FOR  
**AMD RADEON™ VII**

BRINGING THE STABILITY, SIMPLICITY, AND SECURITY OF  
RADEON™ PRO SOFTWARE TO RADEON™ GRAPHICS

AMD  
RADEON PRO  
Software

AMD  
RADEON VII





# “ONE DRIVER” FEATURE COMPARISON

FEATURES	AMD RADEON™ GRAPHICS	AMD RADEON™ PRO GRAPHICS
COMMERCIAL SOFTWARE SUPPORT	✓	✓
STABILITY	✓	✓
COMMERCIAL APPLICATION PERFORMANCE	✓	✓
STANDARD FEATURE SET	✓	✓
ENTERPRISE SECURITY FEATURES	✓	✓
WORKSTATION APPLICATION OPTIMIZATIONS		✓
WORKSTATION APPLICATION CERTIFICATIONS		✓
WORKSTATION FEATURE SET		✓
REMOTE WORKSTATION SUPPORT		✓

\*COMPATIBLE WITH: AMD RADEON™ PRO WX SERIES, AMD RADEON™ PRO SSG, AMD RADEON™ PRO DUO SERIES, AMD FIREPRO™ W SERIES, AMD RADEON™ VEGA FRONTIER EDITION, AMD FIREPRO™ S7100X, S7150, S7150 X2, AMD RADEON™ VII (COMING SOON)  
AND AMD RADEON™ R5 300, R7, R9, RX SERIES PRODUCTS. SUPPORTS: WINDOWS® 7/10, LINUX®



AMD  
RADEON PRO  
Software  
FOR ENTERPRISE

AMD RADEON™ PRO SOFTWARE FOR ENTERPRISE

# MAKING THE BEST

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PERFORMANCE



STABILITY



SECURITY



SIMPLICITY



VIRTUALIZATION



**GD-83**

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**RPS-41**

When using AMD Radeon™ Pro Software for Enterprise 19.Q1, the AMD Radeon™ Pro WX 4100 has up to 23% better graphics performance in Dassault Systèmes SOLIDWORKS® 2019 when compared to the NVIDIA Quadro® P1000 using the NVIDIA Quadro® Optimal Driver for Enterprise R410 U5. Testing conducted by AMD Performance Labs as of Jan 22, 2019, on a test system comprising of an Intel® Xeon® Gold 5122 4-core 3.60 GHz CPU, 32GB RAM, Windows® 10 Enterprise April 2018 Update 64-bit, AMD Radeon™ Pro WX 4100, AMD Radeon™ Pro Software for Enterprise 19.Q1/NVIDIA Quadro® P1000, NVIDIA Quadro® Optimal Driver for Enterprise (ODE) R410 U5 (412.16). Benchmark Application: “Graphics” SOLIDWORKS® Performance Test 2019 with SOLIDWORKS® 2019 “Enhanced graphics performance” setting ON (results in seconds, lower is better). AMD Radeon™ Pro WX 4100 score: 8.90 sec. NVIDIA Quadro® P1000 score: 10.97 sec. Performance Differential:  $(10.97-8.9)/8.9*100 = \sim 23.26\%$  better performance with the AMD Radeon™ Pro WX 4100. Scores are based on AMD internal lab measurements and may vary. PC manufacturers may vary configurations, yielding different results. Performance may vary based on use of latest drivers. RPS-41

**RPS-42**

When using AMD Radeon™ Pro Software for Enterprise 19.Q1, the AMD Radeon™ Pro WX 4100 has up to 46% better rendering performance in Dassault Systèmes SOLIDWORKS® 2019 when compared to the NVIDIA Quadro® P1000 using the NVIDIA Quadro® Optimal Driver for Enterprise R410 U5. Testing conducted by AMD Performance Labs as of Jan 22, 2019, on a test system comprising of an Intel® Xeon® Gold 5122 4-core 3.60 GHz CPU, 32GB RAM, Windows® 10 Enterprise April 2018 Update 64-bit, AMD Radeon™ Pro WX 4100, AMD Radeon™ Pro Software for Enterprise 19.Q1/NVIDIA Quadro® P1000, NVIDIA Quadro® Optimal Driver for Enterprise (ODE) R410 U5 (412.16). Benchmark Application: “Rendering” SOLIDWORKS® Performance Test 2019 with SOLIDWORKS® 2019 “Enhanced graphics performance” setting ON (results in seconds, lower is better). AMD Radeon™ Pro WX 4100 score: 15.2 sec. NVIDIA Quadro® P1000 score: 22.2 sec. Performance Differential:  $(22.2-15.2)/15.2*100 = \sim 46.05\%$  better performance with the AMD Radeon™ Pro WX 4100. Scores are based on AMD internal lab measurements and may vary. PC manufacturers may vary configurations, yielding different results. Performance may vary based on use of latest drivers. RPS-42

**RPS-43**

When using AMD Radeon™ Pro Software for Enterprise 19.Q1, the AMD Radeon™ Pro WX 4100 has up to 15% better RealView performance in Dassault Systèmes SOLIDWORKS® 2019 when compared to the NVIDIA Quadro® P1000 using the NVIDIA Quadro® Optimal Driver for Enterprise R410 U5. Testing conducted by AMD Performance Labs as of Jan 22, 2019, on a test system comprising of an Intel® Xeon® Gold 5122 4-core 3.60 GHz CPU, 32GB RAM, Windows® 10 Enterprise April 2018 Update 64-bit, AMD Radeon™ Pro WX 4100, AMD Radeon™ Pro Software for Enterprise 19.Q1/NVIDIA Quadro® P1000, NVIDIA Quadro® Optimal Driver for Enterprise (ODE) R410 U5 (412.16). Benchmark Application: “RealView” SOLIDWORKS® Performance Test 2019 with SOLIDWORKS® 2019 “Enhanced graphics performance” setting ON (results in seconds, lower is better). AMD Radeon™ Pro WX 4100 score: 7.47 sec. NVIDIA Quadro® P1000 score: 8.57 sec. Performance Differential:  $(8.57-7.47)/7.47*100 = \sim 14.73\%$  better performance with the AMD Radeon™ Pro WX 4100. Scores are based on AMD internal lab measurements and may vary. PC manufacturers may vary configurations, yielding different results. Performance may vary based on use of latest drivers. RPS-43



**RPS-44**

AMD Radeon™ Pro Software for Enterprise 19.Q1 is up to 13% faster in Autodesk Maya® than AMD Radeon™ Pro Software Enterprise Edition 18.Q1 when using the AMD Radeon™ Pro WX 9100. Testing conducted by AMD Performance Labs as of Jan 24, 2019, on a test system comprising of an Intel® Xeon® 4-core W-2125, 32GB RAM, Windows® 10 Fall Creators Update Professional 64-bit, AMD Radeon™ Pro WX 9100, AMD Radeon™ Pro Software Enterprise Edition 18.Q1/AMD Radeon™ Pro Software for Enterprise 19.Q1. Benchmark Application: SPECviewperf® 13 maya-05 (results as score, higher is better). AMD Radeon™ Pro Software Enterprise Edition 18.Q1 score: 207.08. AMD Radeon™ Pro Software for Enterprise 19.Q1 score: 234.76. Performance Differential:  $(234.76 - 207.08) / 207.08 * 100 = \sim 13.37\%$  faster performance with AMD Radeon™ Pro Software for Enterprise 19.Q1. Scores are based on AMD internal lab measurements and may vary. Additional information about the SPEC benchmarks can be found at [www.spec.org/gwpg](http://www.spec.org/gwpg). PC manufacturers may vary configurations, yielding different results. Performance may vary based on use of latest drivers. RPS-44

**RPS-45**

AMD Radeon™ Pro Software for Enterprise 19.Q1 is up to 33% faster in SPECviewperf® 13 medical-02 than AMD Radeon™ Pro Software Enterprise Edition 18.Q1 when using the AMD Radeon™ Pro WX 2100. Testing conducted by AMD Performance Labs as of Jan 24, 2019, on a test system comprising of an Intel® Xeon® 4-core W-2125, 32GB RAM, Windows® 10 Fall Creators Update Professional 64-bit, AMD Radeon™ Pro WX 2100, AMD Radeon™ Pro Software Enterprise Edition 18.Q1/AMD Radeon™ Pro Software for Enterprise 19.Q1. Benchmark Application: SPECviewperf® 13 medical-02 (results as score, higher is better). AMD Radeon™ Pro Software Enterprise Edition 18.Q1 score: 8.62. AMD Radeon™ Pro Software for Enterprise 19.Q1 score: 11.47. Performance Differential:  $(11.47 - 8.62) / 8.62 * 100 = \sim 33.06\%$  faster performance with AMD Radeon™ Pro Software for Enterprise 19.Q1. Scores are based on AMD internal lab measurements and may vary. Additional information about the SPEC benchmarks can be found at [www.spec.org/gwpg](http://www.spec.org/gwpg). PC manufacturers may vary configurations, yielding different results. Performance may vary based on use of latest drivers. RPS-45

**RPS-46**

AMD Radeon™ Pro Software for Enterprise 19.Q1 is up to 22% faster in Dassault Systèmes SOLIDWORKS® than AMD Radeon™ Pro Software Enterprise Edition 18.Q1 when using the AMD Radeon™ Pro WX 9100. Testing conducted by AMD Performance Labs as of Jan 24, 2019, on a test system comprising of an Intel® Xeon® 4-core W-2125, 32GB RAM, Windows® 10 Fall Creators Update Professional 64-bit, AMD Radeon™ Pro WX 9100, AMD Radeon™ Pro Software Enterprise Edition 18.Q1/AMD Radeon™ Pro Software for Enterprise 19.Q1. Benchmark Application: SPECviewperf® 13 sw-04 (results as score, higher is better). AMD Radeon™ Pro Software Enterprise Edition 18.Q1 score: 126.32. AMD Radeon™ Pro Software for Enterprise 19.Q1 score: 154.64. Performance Differential:  $(154.64 - 126.32) / 126.32 * 100 = \sim 22.42\%$  faster performance with AMD Radeon™ Pro Software for Enterprise 19.Q1. Scores are based on AMD internal lab measurements and may vary. Additional information about the SPEC benchmarks can be found at [www.spec.org/gwpg](http://www.spec.org/gwpg). PC manufacturers may vary configurations, yielding different results. Performance may vary based on use of latest drivers. RPS-46



**RPS-47**

AMD Radeon™ Pro Software for Enterprise 19.Q1 is up to 15% faster in Autodesk 3ds Max® than AMD Radeon™ Pro Software Enterprise Edition 18.Q1 when using the AMD Radeon™ Pro WX 2100. Testing conducted by AMD Performance Labs as of Jan 24, 2019, on a test system comprising of an Intel® Xeon® 4-core W-2125, 32GB RAM, Windows® 10 Fall Creators Update Professional 64-bit, AMD Radeon™ Pro WX 2100, AMD Radeon™ Pro Software Enterprise Edition 18.Q1/AMD Radeon™ Pro Software for Enterprise 19.Q1. Benchmark Application: SPECviewperf® 13 3dsmax-06 (4K) (results as score, higher is better). AMD Radeon™ Pro Software Enterprise Edition 18.Q1 score: 24.36. AMD Radeon™ Pro Software for Enterprise 19.Q1 score: 28.04. Performance Differential:  $(28.04 - 24.36) / 24.36 * 100 = \sim 15.11\%$  faster performance with AMD Radeon™ Pro Software for Enterprise 19.Q1. Scores are based on AMD internal lab measurements and may vary. Additional information about the SPEC benchmarks can be found at [www.spec.org/gwpg](http://www.spec.org/gwpg). PC manufacturers may vary configurations, yielding different results. Performance may vary based on use of latest drivers. RPS-47

**RPS-48**

AMD Radeon™ Pro Software for Enterprise 19.Q1 is up to 8% faster in Dassault Systèmes CATIA® than AMD Radeon™ Pro Software Enterprise Edition 18.Q1 when using the AMD Radeon™ Pro WX 9100. Testing conducted by AMD Performance Labs as of Jan 24, 2019, on a test system comprising of an Intel® Xeon® 4-core W-2125, 32GB RAM, Windows® 10 Fall Creators Update Professional 64-bit, AMD Radeon™ Pro WX 9100, AMD Radeon™ Pro Software Enterprise Edition 18.Q1/AMD Radeon™ Pro Software for Enterprise 19.Q1. Benchmark Application: SPECviewperf® 13 catia-05 (results as score, higher is better). AMD Radeon™ Pro Software Enterprise Edition 18.Q1 score: 222.01. AMD Radeon™ Pro Software for Enterprise 19.Q1 score: 240.88. Performance Differential:  $(240.88 - 222.01) / 222.01 * 100 = \sim 8.49\%$  faster performance with AMD Radeon™ Pro Software for Enterprise 19.Q1. Scores are based on AMD internal lab measurements and may vary. Additional information about the SPEC benchmarks can be found at [www.spec.org/gwpg](http://www.spec.org/gwpg). PC manufacturers may vary configurations, yielding different results. Performance may vary based on use of latest drivers. RPS-48

**RPS-49**

AMD Radeon™ Pro Software for Enterprise has approximately 40% more driver certifications in select applications than the competition when comparing the previous AMD Radeon™ Pro Software for Enterprise 18.Q4 to NVIDIA's Quadro® Optimal Driver for Enterprise (ODE) 411.81 driver. Based on AMD internal research as of February 5, 2019, the NVIDIA® Quadro® Optimal Driver for Enterprise (ODE) 411.81 driver (released October 23, 2018) is certified for 18 ISV applications, while the AMD Radeon™ Pro Software for Enterprise 18.Q4 driver (released November 14, 2018) was Day Zero certified for 25 ISV applications. Radeon™ Pro Software for Enterprise 18.Q4 applications certified: 25. NVIDIA® Quadro® Optimal Driver for Enterprise (ODE) 411.81: 18. Differential:  $(25 - 18) / 18 * 100 = 38.88\%$  more ISV application certifications with Radeon™ Pro Software for Enterprise 18.Q4. Results are based on AMD internal research and are subject to change. RPS-49



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