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AMD Reimagines Everyday Computing with New “Zen” Based Athlon™ Desktop Processors, Expands Commercial Client Portfolio with 2nd Generation Ryzen™ PRO Desktop Processors

- New Athlon processors, Athlon PRO processors, and 2nd Gen Ryzen PRO desktop processors provide generational leap in performance[1,2] every day to enterprise-focused workloads, and unified Socket AM4 infrastructure

SANTA CLARA, Calif., Sept. 06, 2018 (GLOBE NEWSWIRE) -- AMD (NASDAQ: AMD) today announced a reimagined family of AMD Athlon desktop processors with Radeon Vega graphics that have been optimized for everyday PC users: the AMD Athlon 200GE, Athlon 220GE, and Athlon 240GE processor. Combining the high-performance x86 “Zen”[3] core and “Vega”[3] graphics architectures in a versatile System-on-Chip (SOC) design, the Athlon desktop processors offer responsive and reliable computing for a wide range of experiences, from day-to-day needs like web browsing and video streaming through more advanced workloads like high-definition PC gaming. Complementing this news, AMD announced the availability of the commercial-grade Athlon PRO 200GE desktop processor, along with three 2nd Gen Ryzen PRO desktop processor models for the commercial, enterprise, and the public sector: the Ryzen 7 PRO 2700X, Ryzen 7 PRO 2700, and Ryzen 5 PRO 2600 processors. With these new introductions, AMD now offers a top-to-bottom line-up of professional-grade computing solutions for experiences that range from premium content creation to advanced multitasking and office productivity.

“We are proud to expand our successful 'Zen' core-based consumer and commercial product portfolios today with the addition of AMD Athlon, AMD Athlon PRO, and 2nd Gen AMD Ryzen PRO desktop processors. The new Athlon desktop processors, now incorporating the advanced “Zen”[3] core and “Vega”[3] graphics architectures, energize a legendary processor brand in AMD Athlon – a brand that consumers and PC enthusiasts alike trusted throughout nearly two decades of innovation,” said Saeid Moshkelani, senior vice president and general manager, Client Compute, AMD. “Additionally, we are continuing to offer business PC users more processing power than we ever have before with the launch of 2nd Gen Ryzen PRO desktop processors into the commercial market.”

AMD Athlon™ 200GE Processor with Radeon™ Vega Graphics

The highly efficient “Zen” architecture helps the AMD Athlon 200GE processor stay cool and quiet[4] for reliable computing experiences, while its “Zen” processor and graphics cores enable responsive PC performance and fluid experiences for games or HD movies. In addition, the AMD Athlon 200GE processor is supported by the existing AMD Socket AM4

infrastructure for a platform that delivers the latest PC features including DDR4 memory, NVMe storage, 4K display support, USB 3.1 Gen2 support, and that offers an easy upgrade path to even more performance with AMD Ryzen™ processors and discrete graphics cards.

The AMD Athlon 200GE desktop processor offers:

- Up to 169 percent more responsive computing than AMD's previous generation AMD A6-9500E[1]
- Up to 67 percent more GPU performance and up to 2X greater power efficiency than the competition[4]
- Up to 84 percent faster high-definition PC gaming than the competition[5]

AMD Athlon™ Desktop Processors with Radeon™ Vega Graphics Spec

MODEL	CPU Cores	Threads	Processor Frequency	Graphics Compute Units [6]	TDP (Watts)	SEP (USD)
AMD Athlon™ 200GE	2	4	3.2GHz	3	35W	$55
AMD Athlon™ 220GE	Details to be disclosed at availability in Q4 2018					
AMD Athlon™ 240GE	Details to be disclosed at availability in Q4 2018					

AMD Athlon™ PRO and 2nd Generation AMD Ryzen PRO Desktop Processors

AMD PRO processors are designed for business, bringing reliability, security, and performance to address the demands of today's compute-intensive enterprise-focused workloads. All AMD PRO processors across the product stack provide commercial-grade quality and reliability to help ensure platform longevity and support open-standard manageability to enable greater management flexibility in a multi-vendor client environment at a business-friendly price. In addition, AMD GuardMI technology enables state-of-the-art, power-on to power-off, silicon-level security that helps protect against an ever-growing number of threats.

Built on x86 "Zen"[3] core, both Athlon PRO 200GE and 2nd Gen Ryzen PRO desktop processors provide breakthrough responsiveness for the most demanding enterprise-class applications and multi-tasking workflows.

- Athlon PRO 200GE processor offers
  - Up to 19% faster system performance than the competition[7]
  - Up to 67% faster graphics performance than the competition[7]
- Ryzen 7 PRO 2700X processor delivers
  - Up to 10% higher multiprocessing performance than the 1st Gen Ryzen 7 PRO 1700X[2]
  - Up to 24% more CPU performance than the competition[8]
  - Up to 18% better performance than the competition[9]

AMD Athlon PRO Desktop Processor and 2nd Generation AMD Ryzen PRO Desktop Processors Line-up

MODEL	Cores	Threads	Clock Speed Max Boost/Base (GHz)	Cache	TDP (Watts)	Graphics Compute Unit
AMD Athlon™ PRO 200GE	2	4	3.2	5MB	35W	3
AMD Ryzen 7 PRO 2700X	8	16	4.1/3.6	20MB	105W	N/A
AMD Ryzen 7 PRO 2700	8	16	4.1/3.2	20MB	65W	N/A
AMD Ryzen 5 PRO 2600	6	12	3.9/3.4	19MB	65W	N/A

Availability

The AMD Athlon 200GE processor will be available from global retailers and system integrators starting Sept. 18, 2018, and the Athlon 220GE and 240GE processor models are slated for launch in Q4 2018. The AMD Athlon PRO 200GE and 2nd Gen Ryzen PRO desktop processors will be available with major global OEMs including Dell, HP, and Lenovo systems, dependent on respective OEM launch schedules. A complete list of participating retailers and launch information can be found at www.AMD.com.

Supporting Resources

- Learn more about AMD Athlon Desktop Processors
- Learn more about AMD Athlon PRO Desktop Processor
- Learn more about 2nd Gen AMD Ryzen PRO Desktop Processors
- Become a fan of AMD on Facebook
- Follow AMD on Twitter

About AMD

For more than 45 years AMD has driven innovation in high-performance computing, graphics and visualization technologies — the building blocks for gaming, immersive platforms and the datacenter. Hundreds of millions of consumers, leading Fortune 500 businesses and cutting-edge scientific research facilities around the world rely on AMD technology daily to improve how they live, work and play. AMD employees around the world are focused on building great products that push the boundaries of what is possible. For more information about how AMD is enabling today and inspiring tomorrow, visit the AMD (NASDAQ: AMD) website, blog, Facebook and Twitter pages.

Cautionary Statement

This press release contains forward-looking statements concerning Advanced Micro Devices, Inc. (AMD) including the features, functionality, availability, timing and expected benefits of AMD Athlon desktop processors, which are made pursuant to the Safe Harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are commonly identified by words such as "would," "intends," "believes," "expects," "may," "will," "should," "seeks," "intends," "plans," "pro forma," "estimates," "anticipates," or the negative of these words and phrases, other variations of these words and phrases or comparable terminology. Investors are cautioned that the forward-looking statements in this document are based on current beliefs, assumptions and expectations, speak only as of the date of this document and involve risks and uncertainties that could cause actual results to differ materially from current expectations. Such statements are subject to certain known and unknown risks and uncertainties, many of which are difficult to predict and generally beyond AMD's control, that could cause actual results and other future events to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. Material factors that could cause actual results to differ materially from current expectations include, without limitation, the following: Intel

Corporation's dominance of the microprocessor market and its aggressive business practices may limit AMD's ability to compete effectively; AMD has a wafer supply agreement with GF with obligations to purchase all of its microprocessor and APU product requirements, and a certain portion of its GPU product requirements, from GLOBALFOUNDRIES Inc. (GF) with limited exceptions. If GF is not able to satisfy AMD's manufacturing requirements, its business could be adversely impacted; AMD relies on third parties to manufacture its products, and if they are unable to do so on a timely basis in sufficient quantities and using competitive technologies, AMD's business could be materially adversely affected; failure to achieve expected manufacturing yields for AMD's products could negatively impact its financial results; the success of AMD's business is dependent upon its ability to introduce products on a timely basis with features and performance levels that provide value to its customers while supporting and coinciding with significant industry transitions; if AMD cannot generate sufficient revenue and operating cash flow or obtain external financing, it may face a cash shortfall and be unable to make all of its planned investments in research and development or other strategic investments; the loss of a significant customer may have a material adverse effect on AMD; AMD's receipt of revenue from its semi-custom SoC products is dependent upon its technology being designed into third-party products and the success of those products; AMD products may be subject to security vulnerabilities that could have a material adverse effect on AMD; data breaches and cyber-attacks could compromise AMD's intellectual property or other sensitive information, be costly to remediate and cause significant damage to its business and reputation; AMD's operating results are subject to quarterly and seasonal sales patterns; global economic uncertainty may adversely impact AMD's business and operating results; AMD may not be able to generate sufficient cash to service its debt obligations or meet its working capital requirements; AMD has a large amount of indebtedness which could adversely affect its financial position and prevent it from implementing its strategy or fulfilling its contractual obligations; the agreements governing AMD's notes and the Secured Revolving Line of Credit impose restrictions on AMD that may adversely affect its ability to operate its business; the markets in which AMD's products are sold are highly competitive; AMD's issuance to West Coast Hitech L.P. (WCH) of warrants to purchase 75 million shares of its common stock, if and when exercised, will dilute the ownership interests of its existing stockholders, and the conversion of the 2.125% Convertible Senior Notes due 2026 may dilute the ownership interest of its existing stockholders, or may otherwise depress the price of its common stock; uncertainties involving the ordering and shipment of AMD's products could materially adversely affect it; the demand for AMD's products depends in part on the market conditions in the industries into which they are sold. Fluctuations in demand for AMD's products or a market decline in any of these industries could have a material adverse effect on its results of operations; AMD's ability to design and introduce new products in a timely manner is dependent upon third-party intellectual property; AMD depends on third-party companies for the design, manufacture and supply of motherboards, software and other computer platform components to support its business; if AMD loses Microsoft Corporation's support for its products or other software vendors do not design and develop software to run on AMD's products, its ability to sell its products could be materially adversely affected; and AMD's reliance on third-party distributors and AIB partners subjects it to certain risks. Investors are urged to review in detail the risks and uncertainties in AMD's Securities and Exchange Commission filings, including but not limited to AMD's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018.

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[1] Testing by AMD performance labs as of 8/23/2018. Performance listed in order of Pentium G4560 (100% baseline) vs. AMD A6-9500E (%diff) vs. AMD Athlon 200GE (%diff). Cinebench R15 nT: 368 (100%) vs. 144 (61% slower) vs. 357 (3% slower) PassMark CPU Test: 5183 (100%) vs. 2974 (43% slower) vs. 5084 (1% slower). PCMark 10 Extended: 2142 (100%) vs. 1919 (10% slower) vs. 2546 (19% faster). Blender (Seconds): 132 (100%) vs. 275 (52% slower) vs. 109 (21% faster). Handbrake (Seconds): 2202 (100%) vs. 5093 (57% slower) vs. 2369 (7% slower). TrueCrypt (GB/s): 2.25 (100%) vs. 1.1 (53% slower) vs. 2.23 (1% slower). Kraken (Seconds): 1315 (100%) vs. 2371 (44% slower) vs. 1349 (2% slower). Adobe Photoshop (Seconds): 91 (100%) vs. 199 (54% slower) vs. 90 (1% faster). AMD Office + Excel + 7Zip Script (Seconds): 148 (100%) vs. 276 (46% slower) vs. 148 (100%). AMD Test System: AMD Athlon 200GE and AMD A6-9500E Processors, MSI B450 Tomahawk (BIOS 1.00), 2x8GB DDR4-2667 (fastest official speed supported by platform), Samsung 850 Pro SSD, GeForce GTX 1050 (driver 398.82), Windows 10 x64 RS4. Intel Test System: Pentium G4560, MSI B250 Gaming M3 (BIOS 3.60), 2x8GB DDR4-2400 (fastest official speed supported by platform), Samsung 850 Pro SSD, GeForce GTX 1050 (driver 398.82), Windows 10 x64 RS4. Performance subject to change with different drivers, firmware, or software.

[2] Testing by AMD Performance labs as of 8/24/2018 on the following system. PC manufacturers may vary configurations yielding different results. Results may vary based on driver versions used. AMD 2nd Gen Ryzen PRO System Config: AMD Ryzen 7 PRO 2700X, 2700, Ryzen 5 PRO 2600 'Turpan' reference motherboard, 16GB of dual-channel DDR4-3200, GeForce GTX 1080 Graphics Card, Graphics driver 390.77, and a Samsung 850 PRO 512GB SSD using the Windows 10 RS3 operating system. AMD 1st Gen Ryzen PRO System Config: AMD Ryzen 7 PRO 1700X, 1700, Ryzen 5 PRO 1600 X370 Xpower Gaming Titanium motherboard, 16GB of dual-channel DDR4-3200, GeForce GTX 1080 Graphics Card, Graphics driver 390.77, and a Samsung 850 PRO 512GB SSD using the Windows 10 RS3 operating system. Multiprocessing performance represented by Cinebench R15 nT multiprocessing performance. System performance represented by PCMark10 extended. Each processor achieved the following scores: AMD Ryzen 7 PRO 2700X, 1720, 7607; AMD Ryzen 7 PRO 2700, 1577, 7472; AMD Ryzen 5 PRO 2600, 1311, 7758; AMD Ryzen 7 PRO 1700X, 1557, 7290; AMD Ryzen 7 PRO 1700, 1355, 7123; AMD Ryzen 5 1600, 1153, 7143. The Ryzen 7 PRO 2700X achieved a multiprocessing score of 1720 (1720/1557= up to 10% faster than the Ryzen 7 PRO 1700X). The Ryzen 7 PRO 2700 achieved a multiprocessing score of 1577 (1577/1355=up to 16% faster than the Ryzen 7 PRO 1700). The Ryzen 5 PRO 2600 achieved a multiprocessing score of 1311 (1311/1153= up to 14% faster than the Ryzen 5 PRO 1600). The Ryzen 7 PRO 2700X achieved a system score of 7607 (7607/7290= up to 4% faster than the Ryzen 7 PRO 1700X). The Ryzen 7 PRO 2700 achieved a system score of 7472 (7472/7123=up to 5% faster than the Ryzen 7 PRO 1700). The Ryzen 5 PRO 2600 achieved a system score of 7756 (7756/7143= up to 9% faster than the Ryzen 5 PRO 1600). RZP-31

[3] The information contained herein is for informational purposes only and is subject to change without notice. Timelines, roadmaps, and/or product release dates shown herein are plans only and subject to change. "Zen" and "Vega" are codenames for AMD architectures, and are not product names. GD-122

[4] Testing by AMD performance labs as of 8/23/2018. Performance listed in order of Pentium G4560 vs. Athlon 200GE (%uplift). 3DMark (2011) Performance ("GPU Performance"): 1221 vs. 2039 (67% faster). Cinebench r15 nT ("CPU Performance"): 368 vs. 357 (3% slower). Efficiency calculated in the following manner: 1) Divide each processor's 3DMark 2011 and

Cinebench R15 nT scores by their respective TDP: 2039/35W=58.26 perf/W for Athlon 200G and 1221.8/54W=22.63 perf/W for Pentium G4560 in 3DMark 2011 / 357/35W=10.2 perf/W for Athlon 200G and 368/54W=6.81 perf/W for Pentium G4560 in Cinebench R15. 2) Calculate relative improvement: 58.26 vs. 22.63 perf/W = 157% (2.57X) better for Athlon 200G in 3DMark and 10.2 vs. 6.81 perf/W = 49.77% (1.4977X) better for Athlon 200G in Cinebench R15. 3) Take 50:50 weighted average of Athlon 200G's CPU and GPU leadership: (2.57*.5)+(1.4977*.5)=2.033X higher performance per watt for Athlon 200G. AMD Test System: AMD Athlon 200GE Processor, MSI B450 Tomahawk (BIOS 1.00), 2x8GB DDR4-2667 (fastest official speed supported by platform), Samsung 850 Pro SSD, Radeon™ Vega 3 Graphics (driver 18.30.01.01), Windows 10 x64 RS4. Intel Test System: Pentium G4560, MSI B250 Gaming M3 (BIOS 3.60), 2x8GB DDR4-2400 (fastest official speed supported by platform), Samsung 850 Pro SSD, HD Graphics 610 (driver 24.20.100.6194), Windows 10 x64 RS4. Performance subject to change with different drivers, firmware, or software. ATG-01

[5] Testing by AMD Performance labs as of 8/26/2018 on the following system. PC manufacturers may vary configurations yielding different results. Performance subject to change with different drivers, firmware, or software. Socket AM4 Test configuration: ASRock A320M-HDV Motherboard, 2x8GB DDR4-2667 (fastest official spec of the platform), AMD Athlon™ 200GE and A10-9700 processors, graphics driver 18.30.01.01-180802a-331834E. Socket 1151 Test Configuration: MSI B250 Gaming M3, Pentium G4560 processor, 2x8GB DDR4-2400 (fastest official spec of the platform), graphics driver 24.20.100.6194. All systems: Samsung 850 PRO 512GB. Windows 10 x64 Pro (RS3). Performance (average fps) listed in order of Pentium G4560 vs. A6-9500 (%diff) vs. Athlon 200GE (%diff). 3DMark (2011) Performance: 1221 vs. 1682 (37% faster) vs. 2039 (67% faster) / DOTA 2 (720p Low): 58 FPS vs. 38 FPS (34% slower) vs. 65 FPS (12% faster) / CS:GO (720p Ultra): 45 FPS vs. 53 FPS (17% faster) vs. 71 FPS (58% faster) / Fortnite (720p Low): 28 FPS vs. 36 FPS (28% faster) vs. 49 FPS (75% faster) / League of Legends (720p Ultra): 67 FPS vs. 91 FPS (35% faster) vs. 111 FPS (66% faster) / Rocket League (720p Medium): 40 FPS vs. 55 FPS (37% faster) vs. 67 FPS (68% faster) / Overwatch (720p Low): 32 FPS vs. 25 FPS (22% slower) vs. 59 FPS (84% faster). ATG-04

[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

[7] Testing by AMD Performance labs as of 8/24/2018 on the following system. PC manufacturers may vary configurations yielding different results. Results may vary based on driver versions used. AMD System Config: AMD Athlon PRO 200GE MSI B450 Tomahawk motherboard, 16GB of dual-channel DDR4-2666, Radeon Vega 3 Graphics, Graphics driver AMD Software version 18.7.1, and a Samsung 850 PRO 512GB SSD using the Windows 10 Pro operating system. Intel System Config: Intel Pentium G4560 MSI B250 Gaming M3 motherboard, 16GB of dual-channel DDR4-2400, Intel HD Graphics 610, Graphics driver 24.20.100.6194, and a Samsung 850 PRO 512GB SSD using the Windows 10 Pro operating system. Benchmarks used: Cinebench R15 nT (multiprocessing performance), PCMark10 Extended (system performance), 3DMark11 Performance (graphics performance) Each processor achieved the following scores: Athlon PRO 200GE: 357, 2547, 2039; Pentium G4560: 368, 2143, 1222.(357/368=up to 3% slower multiprocessing performance on Athlon PRO 200GE than the Pentium G4560), (2547/2143=up to 19% faster system performance on Athlon PRO 200GE than the Pentium G4560) (2039/1222=up to 67% faster system performance on Athlon PRO 200GE than the Pentium G4560) RZP-35

[8] Testing by AMD Performance labs as of 8/24/2018 on the following system. PC manufacturers may vary configurations yielding different results. Results may vary based on driver versions used. AMD System Config: AMD Ryzen 7 PRO 2700X, Ryzen 5 PRO 2600 'Turpan' reference motherboard, 16GB of dual-channel DDR4-3200, GeForce GTX 1080 Graphics Card, Graphics driver 390.77, and a Samsung 850 PRO 512GB SSD using the Windows 10 RS3 operating system. Intel System Config: Intel Core i7-8700, i5-8600 Gigabyte Z370 AORUS Gaming5 motherboard, 16GB of dual-channel DDR4-3200, GeForce GTX 1080 Graphics Card, Graphics driver 390.77, and a Samsung 850 PRO 512GB SSD using the Windows 10 RS3 operating system. Benchmarks used: Cinebench R15 nT (multiprocessing performance), PCMark10 Extended (system performance) Each processor achieved the following scores: Ryzen 7 PRO 2700X: 1720, 7607; Ryzen 5 PRO 2600: 1311, 7758; Core i7-8700: 1393, 8581; i5-8600: 1024, 7733.(1720/1393=up to 24% faster multiprocessing performance on Ryzen 7 PRO 2700X vs the Core i7-8700), (7607/8581=up to 11% slower system performance on Ryzen 7 PRO 2700X vs the Core i7-8700. RZP-32

[9] Testing performed by AMD Performance Labs as of 8/24/2018. Image editing performance represented with as Adobe Photoshop CC CPU applied filters via AMD Red Button Demo. Video editing performance represented with as Adobe Premiere Pro CC encode via AMD Red Button Demo. 3D Rendering defined as POV-Ray 3.7 Raytracing Benchmark. Handbrake 1.0.7 used to represent Encoding performance. Following Results presented in order of Core i7-8700 vs. Ryzen™ 7 PRO 2700X. Adobe Photoshop CC: 31 vs. 27 seconds (16% faster). Adobe Premiere Pro CC: 53 vs. 45 seconds (17% faster). POV-Ray 3.7: 3005 vs. 3539 (18% greater). Handbrake 1.0.7: 605 vs. 547 seconds (11% faster). System Configuration: AMD System Config: AMD Ryzen 7 PRO 2700X, Ryzen 5 PRO 2600 'Turpan' reference motherboard, 16GB of dual-channel DDR4-3200, GeForce GTX 1080 Graphics Card, Graphics driver 390.77, and a Samsung 850 PRO 512GB SSD using the Windows 10 RS3 operating system. Intel System Config: Intel Core i7-8700, i5-8600 Gigabyte Z370 AORUS Gaming5 motherboard, 16GB of dual-channel DDR4-3200, GeForce GTX 1080 Graphics Card, Graphics driver 390.77, and a Samsung 850 PRO 512GB SSD using the Windows 10 RS3 operating system. PC manufacturers may vary configurations yielding different results. Results may vary based on driver versions used. RZP-34

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