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AMD EPYC™ Processors Bring Advanced Security Features and High-Performance Capabilities to VMware Customers

— VMware vSphere® 7.0U1 adds support for AMD Secure Encrypted Virtualization-Encrypted State, enhancing security of data in virtualized environments —

— AMD EPYC processors provide up to 2.3x the performance compared to the competition on VMware[1] —

SANTA CLARA, Calif., Sept. 30, 2020 (GLOBE NEWSWIRE) -- AMD (NASDAQ: AMD) today highlighted the latest expansion of the AMD EPYC™ processor ecosystem for virtualized and hyperconverged infrastructure (HCI) environments with VMware® adding support for AMD Secure Encrypted Virtualization-Encrypted State (SEV-ES) in its newest vSphere® release, 7.0U1.

With the latest release, VMware vSphere now enables AMD SEV-ES, which is part of AMD Infinity Guard, a robust set of modern, hardware enabled features found in all 2nd Gen AMD EPYC processors. In addition to VM memory encryption, SEV-ES also provides encryption of CPU registers and provides VMware customers with easy-to-implement and enhanced security for their environments.

“As the modern data center continues to evolve into a virtualized, hybrid cloud environment, AMD and VMware are working together to make sure customers have access to systems that provide high levels of performance on virtualization workloads, while enabling advanced security features that are simple to implement for better protection of data,” said Dan McNamara, senior vice president and general manager, Server Business Unit, AMD. “A virtualized data center with AMD EPYC processors and VMware enables customers to modernize the data center and have access to high-performance and leading-edge security features, across a wide variety of OEM platforms.”

“In a virtualized environment, it is critical to have protection of data not only from other virtual machines, but the hypervisor itself. This is why we chose to make vSphere 7 the first hypervisor to provide full SEV-ES support from AMD EPYC processors,” said Krish Prasad, senior vice president and general manager, Cloud Platform Business Unit, VMware. “This additional layer of security and data encryption is truly impactful for our customers as they can now encrypt data throughout their environment. But more importantly, customers don’t have to make changes to their applications to take full advantage of SEV-ES, making security implementation simple. AMD has made security an easy choice for our customers with these features and we’re excited to provide the security of AMD EPYC to them.”

The Growing AMD EPYC and VMware Ecosystem

AMD EPYC™ processors have become a leading choice to drive innovation of virtualization and HCI solutions due to their accelerated performance, including 2.3x better VMmark 3.1.1

performance compared to the competition[2], class leading memory capabilities[3], and a full security feature set with AMD Infinity Guard including SEV-ES and Secure Memory Encryption.

AMD has also worked closely with its OEM partners to create vSAN ReadyNodes™ certified for AMD EPYC processors and other AMD EPYC processor and VMware HCI solutions that offer leading performance, scalability, and total cost of ownership.

- **Dell Technologies**
  - **Dell EMC VxRail™ E Series hyperconverged systems** – Featuring 2nd Gen AMD EPYC processors, these systems continue the successful collaboration between AMD, Dell Technologies and VMware enabling HCI for a wide set of use cases.
  - **Dell EMC vSAN Ready Nodes** – Using Dell EMC PowerEdge servers, customers can get the performance of AMD EPYC with the flexibility of Dell EMC vSAN Ready Nodes, hyperconverged building blocks for VMware vSAN™ environments.
- **HPE**
  - **HPE ProLiant DL325 and DL385 Gen10 and Gen10 Plus servers** – Using 2nd Gen AMD EPYC processors, these servers are purpose built for VDI users, business-critical applications, and mixed workloads with scalable growth. The servers are vSAN ReadyNode™ certified as well.
- **Lenovo Data Center Group**
  - **Lenovo** offers Lenovo ThinkSystem single and dual socket servers that are VMware vSAN ReadyNode™ certified. This includes the two socket Lenovo ThinkSystem SR645 and SR665 servers featuring enhanced performance and I/O connectivity for higher performance workloads and the single socket Lenovo ThinkSystem SR635 and SR655 servers to help customers accelerate higher performance workloads to improve efficiency.
- **Supermicro**
  - Supermicro offers vSAN ReadyNode certified solutions with dual-socket AMD EPYC processors for customers that want to deploy the hyper-converged solution, as quickly as possible.

AMD EPYC processors, whether in single socket or dual socket configurations, provide VMware customers with an industry leading performance processor for VMware virtualization workloads[4]. Now with the enablement of SEV-ES on the latest release of vSphere®, customers can choose performance and security features when using AMD EPYC based VMware solutions from OEMs.

This update highlights a continuing collaboration between the two companies to provide VMware and AMD EPYC customers with a high-performance and secure virtualization experience for the modern data center.

You can read more about the latest version of vSphere and its support of SEV-ES in this blog from VMware and hear more about AMD EPYC for VMware solutions at VMworld 2020.

Supporting Resources

- Learn more about AMD Secure Encrypted Virtualization

- Read a blog from AMD about Secure Encrypted Virtualization for VMware
- Learn more about AMD EPYC processors for HCI
- Learn more about AMD Infinity Guard
- Read more about the AMD growth in HCI and virtualization
- Check out a recent HCI whitepaper from Insight64 about HCI
- Follow AMD on Twitter

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[1] 4-node, 2x EPYC™ 7742 processor powered cluster with a score of 24.08@ 28 tiles on the VMmark® 3.1.1 benchmark using vSAN (https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/vmmark/2020-04-28-DellEMC-PowerEdge-R6525.pdf) delivers 2.27x more performance and 2.33x higher tile/VM workload capacity than the VMmark® 3.1.1 vSAN performance of a 4-node, 2x Intel Xeon Platinum 8268 processor powered cluster with a score of 10.63@12 tiles (https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/vmmark/2020-06-30-Supermicro-SYS-2029BT-HNR.pdf) as of 06/08/20. ROM-737

[2] ROM-737

[3] EPYC™ 7002 series has 8 memory channels, supporting 3200 MHz DIMMs yielding 204.8 GB/s of bandwidth vs. the same class of Intel Scalable Gen 2 processors with only 6 memory channels and supporting 2933 MHz DIMMs yielding 140.8 GB/s of bandwidth. 204.8 / 140.8 = 1.454545 - 1.0 = .45 or 45% more. AMD EPYC has 45% more bandwidth. Class based on industry-standard pin-based (LGA) X86 processors. ROM-11

[4] 2P 2nd Gen EPYC™ 7702 powered server scores a world record result of 12.78 Score @ 14 tiles https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/vmmark/2019-08-07-HPE-ProLiant-DL385Gen10.pdf. The next highest published score is 9.02 Score @ 9 tiles on a 2-n, 2-socket Xeon® 8280 powered server https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/vmmark/2019-04-02-Fujitsu-RX2540M5.pdf as of 11/13/19. ROM-389

Contacts:
Aaron Grabein
AMD Communications
+1 512-602-8950
Aaron.Grabein@amd.com

Laura Graves
AMD Investor Relations
+1 408-749-5467
Laura.Graves@amd.com



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