June 1, 2020

AMD COVID-19 HPC Fund to Deliver Supercomputing Clusters to Researchers Combatting COVID-19

— Donation of systems to NYU, MIT, and Rice University brings over seven petaflops of compute power to fight global pandemic —

— High performance AMD CPUs and GPUs to power focused research programs at leading institutions —

SANTA CLARA, Calif., June 01, 2020 (GLOBE NEWSWIRE) -- AMD (NASDAQ: AMD) and technology partner Penguin Computing Inc., a division of SMART Global Holdings, Inc. (NASDAQ: SGH), today announced that New York University (NYU), Massachusetts Institute of Technology (MIT) and Rice University are the first universities named to receive complete AMD-powered, high-performance computing systems from the AMD HPC Fund for COVID-19 research. AMD also announced it will contribute a cloud-based system powered by AMD EPYC and AMD Radeon Instinct processors located on-site at Penguin Computing, providing remote supercomputing capabilities for selected researchers around the world. Combined, the donated systems will collectively provide researchers with more than seven petaflops of compute power that can be applied to fight COVID-19.

“High performance computing technology plays a critical role in modern viral research, deepening our understanding of how specific viruses work and ultimately accelerating the development of potential therapeutics and vaccines,” said Lisa Su, president and CEO, AMD. “AMD and our technology partners are proud to provide researchers around the world with these new systems that will increase the computing capability available to fight COVID-19 and support future medical research.”

The recipient universities are expected to utilize the new compute capacity across a range of pandemic-related workloads including genomics, vaccine development, transmission science and modeling. Additionally, scientists from around the world conducting COVID-19 research can request access to the remote AMD-powered cloud HPC cluster at Penguin Computing by submitting proposals to COVID-19HPC@amd.com.

University Engagement

The receiving universities are preparing their research plans and infrastructure now to receive the systems, including defining specific research projects that can have both immediate and long-term impact.

NYU

“The COVID-19 pandemic has had a profound impact on higher education research, both in terms of its direction and the need for immediate results, so the timing of this donation is particularly fortuitous, and we’re tremendously grateful to AMD,” said Russel Caflisch,

director of the NYU Courant Institute of Mathematical Sciences. “The computing resources donated by AMD will be put to use by NYU researchers from a wide range of disciplines in projects to address the many important facets of the COVID-19 crisis, including: discovery of drugs that may be therapeutic for COVID-19 and future SARS virus mutations, retrieval of relevant research results from the vast biomedical literature, analysis of medical imaging for screening of patients, and analyzing political attitudes and voting behavior in response to financial hardships.”

MIT

"Across MIT we are engaged in work to address the global COVID-19 pandemic, from that with immediate impact such as modeling, testing, and treatment, to that with medium and longer term impact such as discovery of new therapeutics and vaccines. Nearly all of this work involves computing, and much of it requires the kind of high performance computing that AMD is so generously providing with this gift of a Petaflop machine," says Daniel Huttenlocher, dean of the MIT Schwarzman College of Computing.

Rice

At the Center for Theoretical Biological Physics, Rice researcher José Onuchic is using his previous studies on influenza A as a guide to explore how the coronavirus's surface proteins facilitate entrance to human cells, the critical first step of infection. Another scientist, Peter Wolynes, is using principles from his foundational theories of protein folding to screen thousands of drug molecules and identify the best candidates for clinical tests based upon how well they bind to the virus's surface proteins.

"The AMD gift will be truly transformational for Rice's computational attack on COVID-19," said Peter Rossky, dean of Rice's Wiess School of Natural Sciences. "We have the methods to progress, but studies of large, complex systems are at the cutting-edge of computational feasibility. The AMD contribution of dedicated, state-of-the-art computational power will be a game changer in accelerating progress toward defeating this virus."

AMD Ecosystem Partners

AMD has joined with well-known HPC and AI solutions firm Penguin Computing to define, build, and deliver the on-premises systems and Penguin’s Penguin on Demand (POD) cluster, powered by AMD. Penguin Computing’s POD support will be collocated in data center space donated by DataBank. Contributions from Penguin Computing, NVIDIA, Gigabyte, and others are helping the AMD HPC Fund advance COVID-19 research.

“Penguin Computing is looking forward to supporting and contributing to the COVID-19 research efforts through this AMD collaboration. We are committed to providing our applications and technology expertise in high performance computing, artificial intelligence and data analytics to both the University on-premises and our remote POD cloud environments,” said Sid Mair, President, Penguin Computing Inc.

“Ultra-fast data speeds and smart data-processing are key to delivering insights that science demands, particularly in these challenging times,” said Gilad Shainer, senior vice-president of marketing for Mellanox networking at NVIDIA. “NVIDIA Mellanox HDR 200 gigabit InfiniBand solutions provide high data throughput, extremely low latency, and application offload engines that accelerate bio-science simulations and further the development of treatments against the coronavirus.”

Gigabyte is supplying its G290-Z21 compute nodes for the Penguin clusters, built around a single, 48-core AMD EPYC 7642 processor paired with eight Radeon Instinct MI50 GPU accelerators. The system R182-291 management nodes, also from Gigabyte, each utilize two 16-core, AMD EPYC 7302 processors.

AMD Commitment to COVID-19 Research

The AMD COVID-19 HPC fund was established to provide research institutions with computing resources to accelerate medical research on COVID-19 and other diseases. In addition to the initial donations of $15 million of high-performance computing systems, AMD has contributed technology and technical resources to nearly double the peak system of the "Corona" system at Lawrence Livermore National Laboratory which is being used to provide additional computing power for molecular modeling in support of COVID-19 research.

Supporting Resources

- Video from AMD President and CEO, Lisa Su
- AMD response to COVID-19
- Submit a Proposal to access the Penguin Computing on Demand cluster

About AMD
For more than 50 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.

Contacts:
Gary Silcott
AMD Communications
+1 512-602-0889
Gary.Silcott@amd.com

Jason Schmidt
AMD Investor Relations
+1 408-749-6688
Jason.Schmidt@amd.com

Source: Advanced Micro Devices