Improve speed and accuracy in data-intensive HPC workloads powered by 3rd Gen Intel® Xeon® Scalable processors

Benefits of EC2 Hpc6id instances:

- • Amazon Elastic Compute Cloud Hpc6id instances deliver the best price-performance for large fixed costs, and costly technology refresh cycles. Running HPC in the cloud with AWS provides secure, re-sizable capacity in the cloud. You can easily spin up a configuration that includes petabytes of data, to build detailed MRI images for analysis by geologists. Energy workloads use finite difference method (FDM) applications for faster and more accurate simulations. FDM workloads process seismic datasets, which are collected by sonar and may be so large that they can’t fit on a hard drive or its local NVMe storage, instead of transporting it across the network to a slower file system.
- • Amazon EC2 Hpc6id instances deliver up to 2.2X better price-performance over comparable Intel technologies and AWS services and features. Running FDM workloads on EC2 Hpc6id instances can help customers to:
  - Minimize spending without compromising research
  - Run your clusters at virtually any scale
  - Optimize product design with finite element analysis simulations.
  - Optimize component durability with capability to run more detailed acoustics, vibration, and stress simulations.
  - Test the safety and reliability of new air and space vehicles with faster results, fewer safety risks, and reduced costs for labor and materials.
- • Amazon EC2 Hpc6id instances are optimized for performance and cost so you can focus on solving the biggest challenges that matter to you most. They provide attractive price performance, memory, and local NVMe storage capabilities to help researchers and engineers run tightly coupled, data-intensive HPC workloads in a shorter amount of time.
- • Amazon EC2 Hpc6id instances are available to help you gain insights faster and quickly move into production. With Amazon EC2 Hpc6id instances, powered by 3rd Gen Intel® Xeon® Scalable processors:
  - It takes minutes to create and use HPC clusters with the high performance of instances such as EC2 Hpc6id, driven by Intel® Scalable processors powered by the AWS Nitro System, and high-throughput networking. Turn services on when you need them, and turn them off when you don’t.
  - Drive innovation powered by 3rd Gen Intel® Xeon® Scalable processors.
  - Improve speed results with 3rd Gen Intel® Xeon® Scalable processors
  - Streamline your data science analytics using 1TB DRAM, up to 5GB/s memory capacity per vCPU, and 200 Gbps network bandwidth for inter-node communication.
  - Improve seismic research speed and accuracy
  - Easily work with massive seismic datasets
  - Store terabytes of temporary data on Hpc6id instance's local NVMe storage, instead of transporting it across the network to a slower file system.
  - Improve performance of data-intensive workloads. Speed results with 3rd Gen Intel® Xeon® Scalable processors
  - Gain the performance required to process more-complex and detailed simulations that involve larger datasets.
  - Optimize price performance
  - Minimize spending without compromising research
  - Maximize resource and cost efficiency
  - Achieve any scale
  - Minimize spending without compromising research
  - Maximize resource and cost efficiency

Optimize product design with finite element analysis simulations.

- With Amazon EC2 Hpc6id instances you can run more FEA element analysis simulations in a smaller amount of time and run more automotive simulations in a shorter amount of time. Let's explore how EC2 Hpc6id instances help to run your most data-intensive High Performance Computing workloads in Amazon EC2.

- With Amazon EC2 Hpc6id instances, powered by 3rd Gen Intel® Xeon® Scalable processors, you can:
  - Improve speed results with 3rd Gen Intel® Xeon® Scalable processors
  - Streamline your data science analytics using 1TB DRAM, up to 5GB/s memory capacity per vCPU, and 200 Gbps network bandwidth for inter-node communication.
  - Improve seismic research speed and accuracy
  - Easily work with massive seismic datasets
  - Store terabytes of temporary data on Hpc6id instance's local NVMe storage, instead of transporting it across the network to a slower file system.
  - Improve performance of data-intensive workloads. Speed results with 3rd Gen Intel® Xeon® Scalable processors
  - Gain the performance required to process more-complex and detailed simulations that involve larger datasets.
  - Optimize price performance
  - Minimize spending without compromising research
  - Maximize resource and cost efficiency
  - Achieve any scale
  - Minimize spending without compromising research
  - Maximize resource and cost efficiency

- Design problems have unique challenges unique to 3rd Gen Intel® Xeon® Scalable processors:
  - Inter-node communication
  - Optimize computation
  - Heat dissipation

- Running FDM workloads on EC2 Hpc6id instances can help customers to:
  - Minimize spending without compromising research
  - Run your clusters at virtually any scale
  - Optimize product design with finite element analysis simulations.
  - Optimize component durability with capability to run more detailed acoustics, vibration, and stress simulations.
  - Test the safety and reliability of new air and space vehicles with faster results, fewer safety risks, and reduced costs for labor and materials.

Use structural integrity simulations to create the thinnest, most efficient wind turbine blades.

- Automotive
- Medical device
- Aerospace
- Packaging
- Watercraft
- Electric vehicles

Worried about safety and reliability and whether you can get the results you want? Running FDM workloads on Amazon EC2 Hpc6id instances with 3rd Gen Intel® Xeon® Scalable processors can help.

- Automotive
- Medical device
- Aerospace
- Packaging
- Watercraft
- Electric vehicles

Learn more and get started

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