Case Study

Intel® Xeon® Processors

Leading Asian Bank Modernizes Quantitative Finance and Improves Trade Transaction Speeds while Seeing Substantial ROI

Optimization of Amazon EC2 C7i Instances, 4th Gen Intel® Xeon® processors, and Intel® oneAPI Base Toolkit helps speed price modeling.

Solution Ingredients

- Amazon EC2 C7i instances
- 4th Gen Intel® Xeon® processors
- Intel® oneAPI Base Toolkit
- Intel® VTune™ Profiler

Executive Summary

One of the largest banks in Southeast Asia provides expertise and guidance for customers' investments. In the banking industry, transaction speed and accuracy are paramount. After migrating its pricing modeling workloads from Amazon EC2 C6i instances to Amazon EC2 C7i instances supported by 4th Gen Intel® Xeon® processors, the company saw a significant performance-per-dollar boost. Over time, the change could save millions of dollars in trading costs thanks to faster price modeling.

Challenge

While acting on behalf of its customers, the financial services company consistently needs to determine the proper pricing for its investment products to remain competitive in a dynamic marketplace. Therefore, the bank relies on in-house simulation tools for fast and accurate trades. In the financial sector, even fractions of a second per transaction matter. The company sought ways to speed up simulations while reducing hosting costs.

Migrating to Amazon EC2 C7i instances supported by 4th Gen Intel® Xeon® processors, resulted in a significant performance-per-dollar boost, and could save millions of dollars in trading costs thanks to faster price modeling.

Solution

Working closely with teams at Amazon and Intel, the bank chose Amazon EC2 C7i instances supported by 4th Gen Intel Xeon processors. The combination provided a substantial increase in performance over Amazon EC2 C6i instances with 3rd Gen Intel Xeon processors.

To optimize the Amazon EC2 C7i instances for finance-related workloads, the team tapped the Intel® oneAPI Base Toolkit: Intel® VTune™ Profiler. The tool helped them evaluate and optimize subroutines and maximize workload speed by leveraging the CPUs' built-in features, like AI acceleration. With aid from these tools, Intel engineers also offered the financial institution insights at the code level, which helped derive additional performance gains.

Results

The Amazon EC2 C7i instances and code optimizations allowed the Asian bank to process simulations significantly faster, resulting in a lower cost per transaction. Comparing the newest instances to the previous generation, the company experienced an amazing performance-per-dollar boost. Plus, the solution offers the flexibility to scale up or down its instance usage, depending on customer demands.

Key Takeaways

- Moving workloads to the latest Amazon instances and Intel processors make transactions faster, creating a price-performance improvement.
- In contrast to an on-premise solution running simulations, Amazon cloud instances offer greater flexibility and elasticity to scale as simulation workloads demand it without sacrificing performance or security.
- The Intel oneAPI Base Toolkit can help engineers identify workload bottlenecks down to the code level to optimize performance on Intel Xeon processors.

For more information

Learn more about Intel Xeon processors

Explore AWS EC2 instances

intel + aws

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