

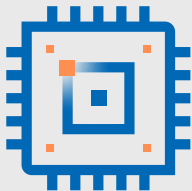
# Speed up Splunk® Enterprise by up to 1.93x with Intel Xeon processor-based AWS EC2 instances vs. AMD EPYC processor-based AWS EC2 instances



Splunk



**Index data up to 1.93x faster with 48-vCPU C5 instances**  
vs. C5ad instances



**Get up to 1.72x more performance per dollar with 48-vCPU C5 instances**  
vs. C5ad instances

## Get reports from data and act on insights faster with C5 instances featuring 2<sup>nd</sup> Gen Intel® Xeon® Scalable processors

Machine-generated data, which comes from servers, sensors, or IoT devices, is often called dark data because companies have a difficult time harnessing such disparate data into meaningful insights. To collect and process this machine data, organizations use Splunk to create searchable chunks of data that administrators can use. For organizations running Splunk® Enterprise in the cloud, testing shows that choosing AWS C5 Instances enabled by 2<sup>nd</sup> Gen Intel® Xeon® Scalable processors can offer better indexing and search performance at a better value than C5ad instances with AMD EPYC processors.

Across two Splunk workloads, C5 instances featuring 2<sup>nd</sup> Gen Intel Xeon Scalable processors delivered up to 1.93x better Splunk performance than C5ad instances and up to 1.72x better performance per dollar. With C5 instances, organizations can ingest, process, and analyze data faster, which could lead to lower monthly cloud operating costs because they require fewer cloud instances to complete indexing work.

### Cut Through Machine Data Faster

The faster your cloud instances can ingest, process, and analyze data, the sooner your organization can take actions to improve your business. As Figure 1 shows, 48-vCPU C5 instances enabled by 2<sup>nd</sup> Gen Intel Xeon Scalable processors outperformed 48-vCPU C5ad instances by 1.93x on a medium indexing/search intensive workload and by 1.36x on an intensive indexing/search medium workload.

### Relative Splunk Enterprise performance

Higher is better

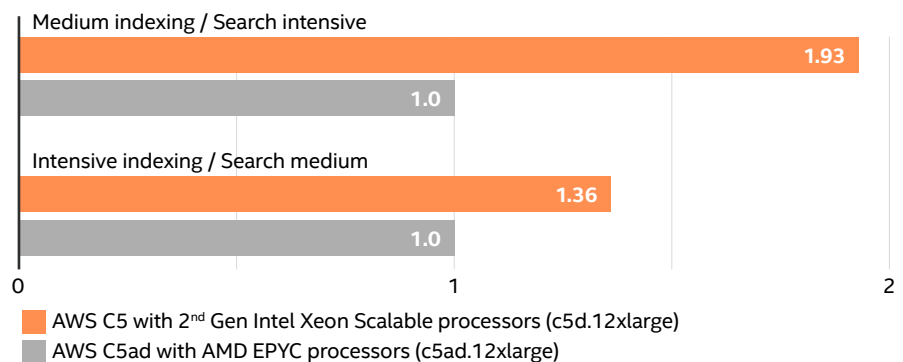
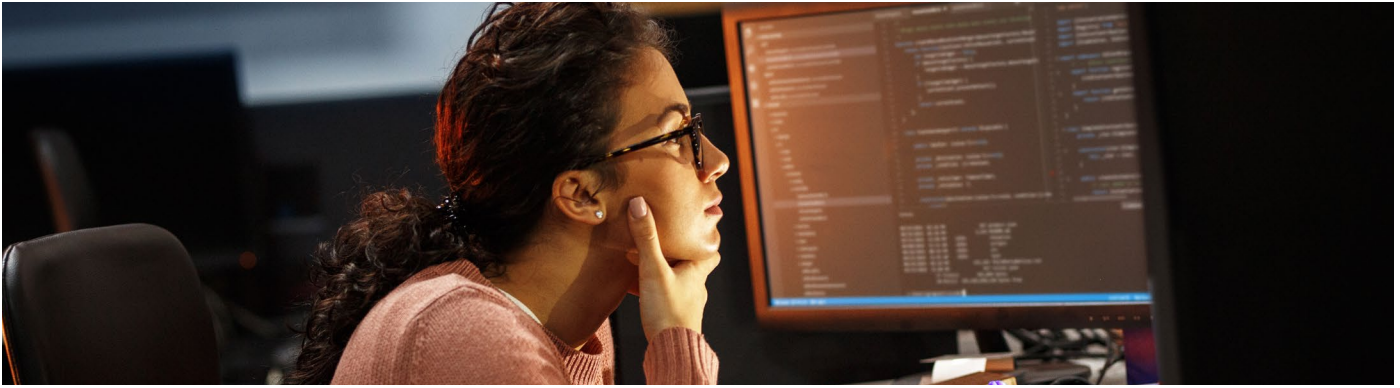


Figure 1. Relative results comparing the Splunk performance of C5 instances vs. C5ad instances.



## Accelerate Time to Value for Your Cloud Investment

While improved performance is always desirable, the next question becomes: At what cost? Is the performance that AWS C5 instances deliver worth the additional investment? These tests show that the answer is yes. As Figure 2 shows, 48-vCPU AWS C5 instances with 2<sup>nd</sup> Gen Intel Xeon Scalable processors offered 1.72x better performance per dollar for medium indexing/search intensive and 1.22x better performance per dollar for intensive indexing/search medium Splunk workloads than C5ad instances with AMD EPYC processors.

Collecting machine data and then making sense of it using Splunk can require a large hardware footprint. As these tests show, organizations can process and gain insight from machine-generated or dark data faster and at an accelerated value by selecting AWS C5 instances enabled by 2<sup>nd</sup> Gen Intel Xeon Scalable processors over AWS C5ad instances with AMD EPYC processors.

### Learn More

To begin running your Splunk workloads on AWS C5 Instances with 2<sup>nd</sup> Gen Intel Xeon Scalable processors, visit <http://intel.com/aws>.

### Relative Splunk Enterprise performance per dollar Higher is better

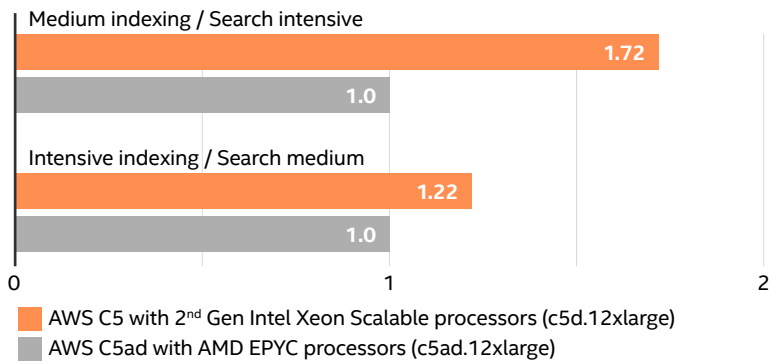


Figure 2. Relative results comparing the Splunk performance per dollar of C5 instances vs. C5ad instances.

Tests performed by Intel in March 2021 on AWS in region us-west-2. Tested three iterations and selected median for result. Software used: CentOS 7.9.2009 with kernel 3.10.0-1062.12.1.el7.x86\_64, splunk-8.1.0-f57c09e87251-Linux-x86\_64, and SBK v2. Medium Indexing-Search Intensive workload details: Run Type: SmartStore, Indexing Rate: 1TB, Replication: 3X, Search Type: index=test every1 earliest=-1m, #Searches: 25, #Forwards: 10, #ForwardingProcesses: 15, batch\_search\_max\_pipeline: 8, #index Pipelines: 1. Intensive Indexing-Medium Search workload details: Run Type: SmartStore, replication factor: 3X, Indexing rate: 5TB, Search Type: index=test every10 earliest=-60s latest=-50s, #searches: 25, #forwards: 10, #forwarding processes: 15, #Index Pipelines: 4; other configuration details to follow. C5d.12xlarge: 48 vCPUs, 96GB memory, 2 x 900 NVMe SSD, 12 Gbps Network BW, Cascade Lake CPU. C5d.12xlarge test environment: #Indexers - x5 (c5d.12xlarge), #Search Heads - x3 (c5.9xlarge), #Forwarders - x10 (c5.4xlarge), #Controller - x1 (c5.2xlarge), #Master x1 (c5.4xlarge). C5ad.12xlarge: 48 vCPUs, 96GB memory, 2 x 900 NVMe SSD, 12 Gbps Network BW, AMD Rome CPU. C5ad.12xlarge test environment: #Indexers - x5 (c5ad.12xlarge), #Search Heads - x3 (c5ad.8xlarge), #Forwarders - x10 (c5ad.4xlarge), #Controller - x1 (c5ad.2xlarge), #Master x1 (c5ad.4xlarge). Pay-as-you-go prices as of 4/7/2021: c5d.12xlarge - \$2.304; c5ad.12xlarge - \$2.064.



Performance varies by use, configuration and other factors. Learn more at [www.Intel.com/PerformanceIndex](http://www.Intel.com/PerformanceIndex).

Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. See backup for configuration details. No product or component can be absolutely secure. Your costs and results may vary.

Intel technologies may require enabled hardware, software or service activation.

© Intel Corporation. Intel, the Intel logo, and other Intel marks are trademarks of Intel Corporation or its subsidiaries. Other names and brands may be claimed as the property of others.

Printed in USA 0921/JO/PT/PDF US002

