

# HOW TO DELIVER WEB-BASED WORKLOADS AT LOW TCO

Discover the advantages of choosing Amazon EC2\* instances featuring the Intel® Xeon® Scalable processor

Intel® Xeon® Scalable processors offer:

Up to



higher performance/\$ on Server Side Java\* and Wordpress PHP/HHVM\*<sup>1</sup>

Upgrade from instances featuring an older Intel® processor to instances featuring a newer Intel processor to **save up to**



in Amazon EC2 instance costs<sup>2</sup>

Find out more about building value on your critical workloads by reading this Intel eGuide.

Achieve incredible performance per dollar on web-based workloads with AWS\* and Intel

Web-based workloads need to be fast. Often, users will be waiting on a page to download and might abandon the website (and the business) if it takes too long. Other times, the web-based workload is integrated in a business process, where other processes are waiting for it to complete. At the same time, budgets are tight. To make sure you're getting the best value from your web-based workloads, it's important to check you're using the right Amazon EC2 instances.

Choose the **Intel® Xeon® Scalable processor** to unlock savings. An Amazon EC2 instance featuring a 96 vCPU Intel Xeon Scalable processor delivers **up to 1.74x higher performance per dollar**<sup>1</sup>. That's true for two common web workloads we tested: server side Java\* and Wordpress PHP/HHVM\*.

If you're already using Intel® Xeon® processors, you may be able to make savings by switching to **newer instances**. For example, the t2.large instance enables you to burst above a baseline of CPU performance when you need a bit extra. AWS recommends it for websites and web applications, development environments, build servers and code repositories, among other use cases. By moving to a t3.medium instance, you can **save up to 44 percent, or up to \$248.14 per instance**<sup>2</sup>. One customer analyzed by TSO Logic\* had 130 instances that could be migrated, and was able to **realize savings of up to \$32,258 annually**<sup>2</sup>. Similarly, moving from t2.xlarge to t3.large can **save up to \$454.00 per instance, a saving of up to 47 percent**<sup>3</sup>.

Get more from your Amazon EC2 instance investment by running your web-based workloads on instances featuring the Intel Xeon Scalable processor.



<sup>1</sup> Results calculated by Intel using AWS pricing (\$/hour, standard 1-year term, no up-front) as of 12th January, 2019.

Performance per dollar testing done on Amazon EC2 M5 and M5 instances (<https://aws.amazon.com/ec2/instance-types/>), comparing 96 vCPU Intel® Xeon® Scalable processor performance per dollar to Competitor processor performance per dollar.

Workload: Server Side Java\* 1 JVM

Results: Competitor processor performance per dollar = baseline of 1; Intel® Xeon® Scalable processor performance per dollar = 1.74X (higher is better)  
Server Side Java (higher is better):

Amazon EC2 m5.24xlarge (Intel) Instance, Java Server Benchmark No NUMA binding, 2JVM, OpenJDK 10.0.1, RedHat\* Enterprise Linux 7.5, Kernel 3.10.0-862.el7.x86\_64, Score 101767 Transactions/sec, measured by Intel on 11/16/18.

Amazon EC2 m5a.24xlarge (Competitor processor) Instance, Java Server Benchmark No NUMA binding, 2JVM, OpenJDK 10.0.1, RedHat\* Enterprise Linux 7.5, Kernel 3.10.0-862.el7.x86\_64, Score 52068 Transactions/sec, measured by Intel on 11/16/18.

Workload: Wordpress\* PHP/HHVM\*

Results: Competitor processor performance per dollar = baseline of 1; Intel® Xeon® Scalable processor performance per dollar = 1.75X (higher is better)  
Web Front End Wordpress (higher is better):

Amazon EC2 m5.24xlarge (Intel) Instance, oss-performance/wordpress Ver 4.2.0; Ver 10.2.19-MariaDB-1:10.2.19+maria~bionic; Workload Version: u'4.2.0; Client Threads: 200; PHP 7.2.12-1; perffitbenchmarker\_version="v1.12.0-944-g82392cc; Ubuntu 18.04, Kernel Linux 4.15.0-1025-aws, Score 3626.11 TPS, measured by Intel on 11/16/18.

Amazon EC2 m5a.24xlarge (Competitor processor) Instance, oss-performance/wordpress Ver 4.2.0; Ver 10.2.19-MariaDB-1:10.2.19+maria~bionic; Workload Version: u'4.2.0; Client Threads: 200; PHP 7.2.12-1; perffitbenchmarker\_version="v1.12.0-944-g82392cc; Ubuntu 18.04, Kernel Linux 4.15.0-1025-aws, Score 1838.48 TPS, measured by Intel on 11/16/18.

For more details visit [www.intel.com/benchmarks](http://www.intel.com/benchmarks).

<sup>2</sup> Source: TSO Logic / Intel research report: "New Advances by Intel, Amazon Web Services, Drive Major Cloud Savings". Cost saving based on moving to a t3.medium instance.

<sup>3</sup> Source: TSO Logic / Intel research report: "New Advances by Intel, Amazon Web Services, Drive Major Cloud Savings". Cost saving based on migrating from t2.large to t3.medium instances.

Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products. For more complete information visit [www.intel.com/benchmarks](http://www.intel.com/benchmarks)

Performance results are based on testing as of the date set forth in the configurations and may not reflect all publicly available security updates. See configuration disclosure for details. No product or component can be absolutely secure.

Cost reduction scenarios described are intended as examples of how a given Intel- based product, in the specified circumstances and configurations, may affect future costs and provide cost savings. Circumstances will vary. Intel does not guarantee any costs or cost reduction.

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