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AWS EC2 R5n Instances Supported up to 1.85x as Many Kubernetes Users as Older R4 Instances

Get More from your AWS Investment by Selecting Newer R5n Instances Featuring 2nd Gen Intel® Xeon® Scalable Processors

Companies that use the cloud to host their Kubernetes-based websites have a number of choices, and they get the best value when they use the most appropriate instance for the task at hand. To support more of the users who expect consistent access your company's websites, select a newer AWS R5n instance type enabled by 2nd Gen Intel® Xeon® Scalable processors.

Kubernetes is a platform for deploying and managing application containers, software units that include all components necessary to run applications, such as the application code, libraries, binaries, configuration files, and dependencies. Weathervane 2.0 is an application-level Kubernetes benchmark from VMware. It uses a real-time auction web app to determine how well a Kubernetes cluster can perform, and delivers results in terms of WvUsers, the maximum number of simulated users the application instances support.
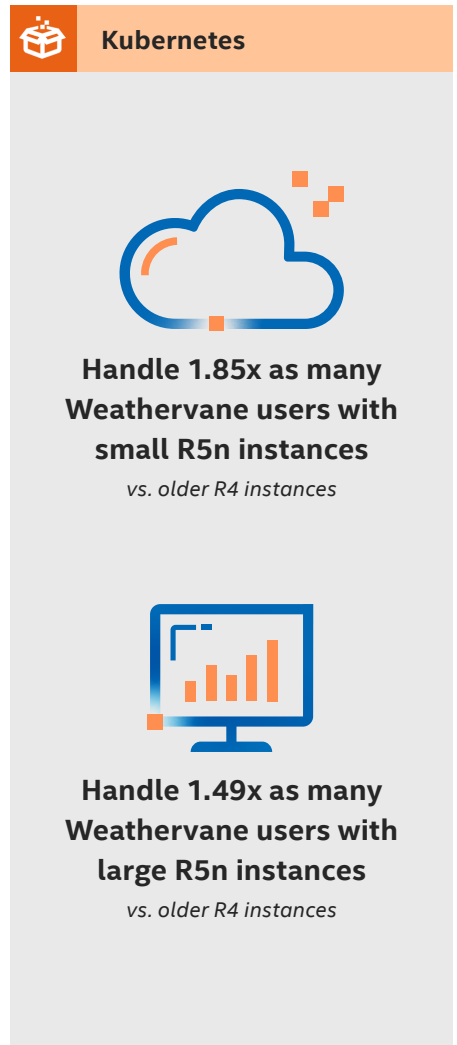
In Weathervane tests comparing clusters comprising two sizes of AWS Instances, newer R5n Instances enabled by 2nd Gen Intel Xeon Scalable processors supported up to 1.85x the number of users as older R4 Instances.

For your Kubernetes website hosting needs, choose a newer R5n instance enabled by 2nd Gen Intel Xeon Scalable processors.

Measuring Kubernetes performance with Weathervane

Testing used the application-level Kubernetes benchmark Weathervane 2.0, developed by VMware. The benchmark test outputs results in terms of Weathervane users, or WvUsers. The WvUser metric "represents the maximum number of simulated users that could interact with the application instances without violating the QoS requirements."

As Figure 1 shows, in tests comparing the Weathervane performance of clusters made up of small instances with eight vCPUs, AWS R5n Instances enabled by Intel Xeon Scalable processors was able to handle 1.85x as many users as an R4 instance using older processors.

Kubernetes

Handle 1.85x as many Weathervane users with small R5n instances
vs. older R4 instances

Handle 1.49x as many Weathervane users with large R5n instances
vs. older R4 instances

Intel Workload Proof Series: Kubernetes-managed web services on AWS R5n vs R4

Number of Weathervane WvUsers in a small instance cluster (normalized)

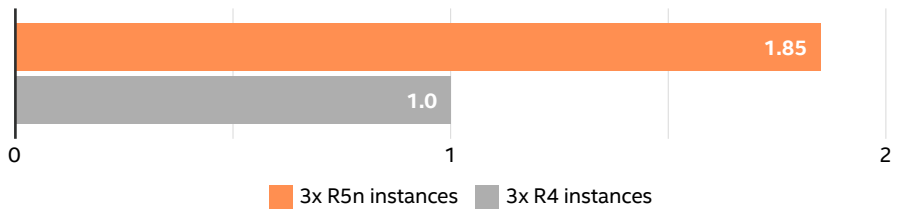Figure 1. Relative test results comparing the Weathervane 2.0 performance of the small (eight-vCPU) R5n instance type to the small R4 instance type.

Better Performance per Instance Can Reduce the Number of Instances You Need

If you've decided to host your Weathervane websites on a cluster built from AWS R-series instances, you can get better performance by selecting newer R5n instances enabled by 2nd Gen Intel® Xeon® Scalable processors rather than older R4 instances.

Testing also measured the performance of large R5n instances consisting of 32 vCPUs. As Figure 2 above shows, a cluster using large AWS 32-vCPU R5n instances enabled by Intel Xeon Scalable processors supported 1.49x as many users as a cluster with R4 instances using older processors.

Number of Weathervane WvUsers in a large instance cluster (normalized)
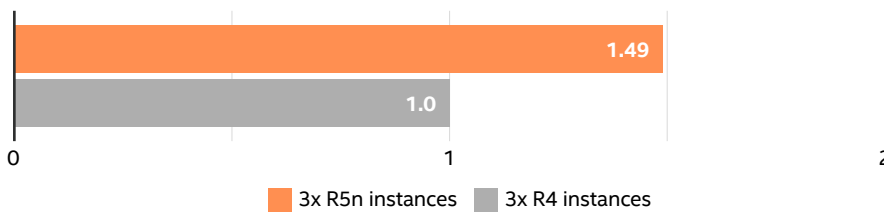

Figure 2. Relative test results comparing the Weathervane 2.0 performance of the large (32-vCPU) R5n instance type to the large R4 instance type.

Whichever size instances your Weathervane site requires, choosing newer R5n Instances enabled by Intel Xeon Scalable processors could allow you to support more users.

Learn More

To begin running your Kubernetes websites on AWS Platform R5n Instances with 2nd Gen Intel Xeon Scalable processors, visit http://intel.com/aws.

For more test details, visit http://facts.pt/sAOVfuj.