PRODUCT BRIEF

SUPERMICRO LEADS THE INDUSTRY IN SPEC FLOATING POINT AND INTEGER PERFORMANCE

Supermicro Hyper Servers, a flagship product line, demonstrate leading performance with Intel® Xeon® 6 Processors with P-Cores in a Range of Standard Performance Tests.

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Executive Summary

Among Tier 1 server suppliers (IDC, 3Q 2024), Supermicro is leading the industry in SPEC.org SPEC CPU® 2017 Floating Point Rate Results, the SPEC CPU® 2017 Floating Point Speed Results, the SPEC CPU 2017 SPEC Integer Rate Results, and the SPEC CPU 2017 Integer Speed Results.

This article provides a comprehensive discussion of both floating-point and integer performance, backed by detailed benchmark results.

Two types of measurements are calculated for the floating-point and integer performance tests. The first measures the overall system performance by running multiple copies of the application on a system simultaneously. This is called the “rate,” which indicates the CPU’s ability to manage multiple tasks. The second set of tests measures the performance of a single copy of the benchmark running on the server and is referred to as the “speed,” which indicates the CPU's ability to handle a single task efficiently.

This system used for each test is as follows:

Result Type	System	System	CPU
Floating Point	**2-Socket / 256 Cores**	**1-Socket / 128 Cores**	
• Rate	SYS-122HA-NRT	SYS-212HA-TN	Intel Xeon 6980P
• Speed	SYS-822GA-NGR3	SYS-212HA-TN	Intel Xeon 6980P
Integer	**2-Socket**	**1-Socket**	
• Rate	SYS-122HA-TN-LCC	SYS-212HA-TN	Intel Xeon 6980P
• Speed	SYS-122HA-TN-LCC	SYS-212HA-TN	Intel Xeon 6980P

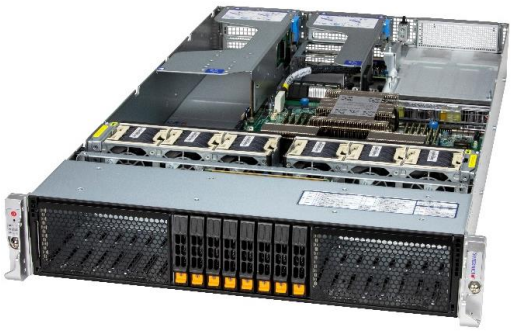
SPEC CPU 2017 Floating Point Results:

Supermicro Results for Floating Point Rates

Supermicro leads the industry (of Tier 1 vendors per IDC) in the performance of the SPEC CPU 2017 Floating Point Rate results, with either 1 or 2 sockets.

2-Socket System: For the 2-socket system, the Supermicro Hyper, the SYS-522HA-NRT server was used. It contains dual Intel® Xeon® 6980P CPUs. The memory is 1.5TB of MRDIMMs at 8800MT/s. This server is liquid-cooled.

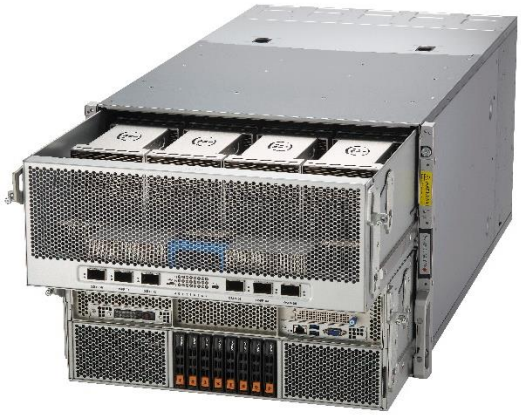
1-Socket System: The 1-socket system was the Supermicro Hyper, the SYS-212HA-TN. It used the Intel Xeon 6980P and contains 768GB of MRDIMM memory at 8800MT/s.



Supermicro Results for Floating Point Speeds

The performance for the Speed benchmark demonstrates continued leadership for Supermicro servers.

2-socket system: The leading system for the Speed benchmark is the Supermicro SuperServer SYS-822GA-NGR3 system. The system contained 1.5TB of MRDIMM 8800MT/s memory.



1-socket system: The leading system for the 1 socket systems for the SPEC Floating Point Speed result is the Supermicro SuperServer SYS-212HA-TN.

SPEC CPU 2017 Integer Results:

The Integer rate benchmark measures the performance of applications based on integer math. Supermicro leads the industry among Tier 1 vendors in both the 2-socket and 1-socket results.

Supermicro Results for Integer Rates

The Integer rate benchmark executes multiple copies of the applications simultaneously. Supermicro leads the industry among Tier 1 vendors in both the 2-socket and 1-socket results.

2-socket system: The leading system using 2 sockets is the Supermicro SuperServer SYS-522HA-NRT system with dual Intel Xeon 6 processors, the 6980P, and 1.5TB of MRDIMM memory.

1-socket system: The system with the top score for a single-socket system is the Supermicro SuperServer SYS-212HA-TN, containing a single Intel 6980P processor.

SPEC CPU 2017 Integer Speed Results:

Supermicro leads all Tier 1 vendors in the performance of running the SPEC integer suite, which measures the system's integer performance.

2-socket system: The highest performing system from a Tier 1 vendor is the Supermicro SuperServer SYS-522GA-NRTand 1.5TB of MRDIMMs at 8800MT/s.

1-socket system: The leading system using just 1 socket is the Supermicro Hyper SuperServer SYS-212HA-TN. This system contained 768GB of MRDIMM memory at 8800MT/s.

Conclusion

Supermicro is the leading Tier 1 vendor when measuring the performance of the CPU and system using the SPEC.org benchmarks for Floating-Point and Integer tests.

For more information:

Supermicro Liquid Cooling website: https://www.supermicro.com/liquidcooling

SUPERMICRO

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