

AMD Beats Intel in 36 of 57 Power Efficiency Tests

Chicago, IL, August 30, 2007 -- Recent tests by Neal Nelson & Associates, an independent computer performance consulting firm, have reported that in 36 of the 57 cases tested an AMD (NYSE: AMD) Opteron based server delivered better power efficiency than a comparably configured Intel (NASDAQ: INTC) Xeon based server.

The tests were performed on servers configured with 2, 4, 6 and 8 gigabytes of main memory at various transaction processing load levels. The results show that for certain configurations and at certain load levels the Intel Xeon based server was 2.4 to 11.7 percent more power efficient while in other cases the AMD Opteron based server was 9.2 to 23.1 percent more power efficient. In addition, when the systems were idle and waiting for transactions to process, the AMD server was 30.4 to 53.1 percent more power efficient.

Power consumption while the servers are idle is particularly significant since many servers spend most of their time waiting for work. A November 16, 2006 press release⁽¹⁾ from IBM quotes a report by the Robert Frances Group⁽²⁾ which states that on average servers in datacenters are idle 80 to 85 percent of the time.

Other observations that can be made from the test results include: 1) Larger memory configurations deliver both higher throughput and better power efficiency, 2) Intel's power efficiency advantages decrease as memory size increases, 3) AMD's power efficiency advantages increase as memory size increases, 4) For primarily calculation type workloads, the Xeon delivers 8.0 to 14.0 percent higher peak throughput, and 5) For primarily disk I/O intensive workloads the Opteron delivers 11.3 to 19.4 percent higher peak throughput.

These test results were collected by Neal Nelson's second generation Server Power Efficiency Benchmark. This test is a client server benchmark where world wide web transactions are processed against a server configured with Novell's SUSE Linux Enterprise Server, the Apache2 web server software and the MySQL relational database. The benchmark subjects a server to various user loads, reports the power consumed at each load level and provides meaningful comparisons of server power usage.

These tests were not financed or sponsored by any company or group. Neal Nelson conducted these tests in response to a statement made by Intel CEO Paul Otellini in a July 18, 2007 analyst conference call. During that call Mr Otellini referred to Intel's "lead in power efficiency". Neal Nelson decided to use his company's benchmark toolset to determine if Intel actually had a lead power efficiency. "It appears that Mr. Otellini's statement is inconsistent with the test results," observed Nelson.

Nelson's firm has a long history of data processing consulting to some of the world's largest computer customers including the U.S. Army, U.S. Navy, the Internal Revenue Service, McDonalds, WalMart and Federal Express. Nelson's benchmarking laboratory is available to commercial and government users for independent computer performance tests.

Information is available by calling Neal Nelson & Associates at (847) 851-8900 or by sending an email request to neal@nna.com. Trademarks that may be mentioned in this document are the property of their owners.

(1) <http://www-03.ibm.com/press/us/en/pressrelease/20633.wss>

(2) "The Rise to Power of Power: Dealing with the New Data Center Constraint," Jerald Murphy, Robert Frances Group. (2006)