Ferrari And AMD Improve Aerodynamic Research And Development For Formula One

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AMD today announced that Scuderia Ferrari Marlboro, the Formula One racing team, has implemented a server cluster based on the AMD Opteron™ processor with Direct Connect Architecture in order to advance its essential aerodynamic research and development. The servers based on the AMD Opteron processor represent the highest-performing computing solution ever employed by Scuderia Ferrari Marlboro. Jointly developed with AMD, this solution is the latest in a technology partnership that has spanned three seasons of Formula One racing.

“To maintain our competitive edge, Scuderia Ferrari Marlboro deploys

only best-in-class technologies and products that are proven to meet our challenges," said Ross Brawn, technical director for Scuderia Ferrari Marlboro. "The performance afforded by the AMD Opteron processor enables more complex computational models, resulting in greater simulation of variations and conditions."

The AMD Opteron processor-based servers provide Scuderia Ferrari Marlboro's engineering team with a vital research tool that will be used to advance car designs by enabling new aerodynamic testing scenarios. Aerodynamics is fundamental to car performance, yet in car design it is the most difficult variable to control and demands the most processing power.

"It is challenging to meet each department's computing needs within the Ferrari racing team," said Antonio Calabrese, head of information systems for Scuderia Ferrari Marlboro. "Various computing power requirements, diverse software applications and different mobility issues require a stable yet flexible processing platform, and AMD64 technology meets our demanding computing needs and allows us to support applications running in both 32- and 64-bit computing modes."

"Scuderia Ferrari Marlboro has successfully utilized AMD64 technology from engineering research planning to post-race data analysis," said Henri Richard, AMD's executive vice president, worldwide sales and marketing. "Our new jointly developed solution based on the AMD Opteron processor with Direct Connect Architecture demonstrates the outstanding performance capabilities of AMD64 technology, and will allow Scuderia Ferrari Marlboro to rely on what is recognized as the highest-performing x86 processing platform for mission-critical enterprise and high-performance computing applications."

Installed at Scuderia Ferrari Marlboro headquarters in Maranello, Italy, the race team's latest AMD Opteron solution is comprised of several

hundred computing nodes running on the Linux operating system. Scuderia Ferrari Marlboro selected the AMD Opteron processor particularly to help advance Computational Fluid Dynamics (CFD) calculations, which is a critical factor complementing aerodynamics testing.

“We worked closely with Scuderia Ferrari Marlboro to help them develop the most appropriate solution able to meet their requirements of performance, stability and reliability,” said Gianluca Degliesposti, director, server and workstation sales and business development for AMD, EMEA. “The experience of developing this solution together will allow AMD to raise the bar for new commercial sectors where demanding computational fluid dynamics calculations are essential, such as the automotive and aerospace industries.”

Scuderia Ferrari Marlboro expects to immediately benefit from the high-performance capability of the AMD Opteron processor. Capable of billions of floating-point operations per second, the AMD Opteron processor-based servers will provide Ferrari with the calculation speed required to keep pace with rapid design cycles. Much like Ferrari is consistently a top Formula One performer, AMD Opteron continues to be a leader in x86 server Performance. Industry benchmarks for the applications that are critical for the enterprise, such as high-performance computing, Web serving, and messaging and collaboration, confirm that the AMD Opteron processor powers the world’s highest performing 2P and 4P servers.

About the AMD Opteron™ Processor
The world’s first 32-bit and 64-bit processor compatible with the x86 architecture, the AMD Opteron processor is based on AMD64 technology with Direct Connect Architecture. Direct Connect Architecture helps eliminate the bottlenecks inherent in a front-side bus by directly connecting the processors, the memory controller and the I/O

to the central processor unit to enable improved overall system performance and efficiency. AMD also was the first to announce the completion of an x86-based dual-core processor design for 64-bit computing. As more solution providers join the AMD64 ecosystem, the industry is approaching the day when 32-bit-only systems will become obsolete.

The original press release can be found here.