ARM dominates 10B unit CPU core market

SAN JOSE – Driven by the growth of mobile devices, merchant CPU cores shipped in more than 10 billion chips last year, up 25 percent over 2010, according to a new report, ARM Ltd. commanded 78 percent of that market while Ceva and Imagination Technologies took even larger chunks of the smaller markets for DSP and graphics cores, said the report from the Linley Group (Mountain View, Calif.).

ARM's success casts a shadow on its archrival, MIPS Technologies. MIPS recently said it may sell some of its patents, and is reportedly seeking an acquisition partner.

For its part, ARM collected royalties on 7.9 billion chips in 2011 at an average rate of about 4.6 cents per chip, down from 4.8 percent in the prior year, said the report. ARM's royalties are up 19 percent on a compound basis from 2007-2011 while overall semiconductor industry revenues grew just four percent in the same period.

By contrast, MIPS Technologies reported royalties on 656 million chips in 2011 at a rate of about seven cents per chip. It took third place in the market at six percent behind the ARC cores of Synopsys at 10 percent, the report said.

“Despite a general industry need for a strong alternative to ARM, MIPS is slowly sinking below the threshold of viability,” the report said.

“Without new customers, MIPS cannot survive, but the mere possibility that the company could collapse or be sold to an unknown bidder will make it difficult to sign new licensees,” the report said. “We expect major changes to occur within the next year,” it added.

ARM's dominance has created an unbalanced market,” the report concluded. Indeed, at least one semiconductor executive said China's mobile chip designers want an alternative to what they see as ARM's high royalty rates with some already turning to the Power architecture.

MIPS is suffering in part from a lack of R&D resources, said J. Scott Gardner, a Linley Group senior analyst and co-author of the report.
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"There was a window of opportunity for MIPS to be out with a 64-bit architecture before the ARM V8, but that window is closing," he said.

The report validated the group's predictions in 2008 that the market of 5.3 billion chips with merchant CPU cores would double by 2012. Last year's growth fell short of 2010, however, which saw a 30 percent increase over 2009.

"We expect CPU IP to maintain a 10 percent compound annual growth rate through 2016 as the market matures and smartphone growth slows," the report said.

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re: ARM dominates 10B unit CPU core market
TingLu 5/12/2012 10:19:15 PM
ARM royalty is low due to its extreme high volume Micro Controller Cortex-Mx series. MIPS didn't have this line. I'm wondering what is ARM royalty of their Cortex-Ax and Cortex-Rx series.

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re: ARM dominates 10B unit CPU core market
abraxalito 5/11/2012 4:56:01 AM
The report raises as many questions as it answers - if ARM's royalty rates are seen as 'too high' (at an average of 4.6 cents per chip) then why are MIPS's even higher at 7 cents? ISTM the more likely complaint is not the royalties but the up-front licensing costs. Also since ARM is doing a good job why would the market need a 'strong alternative'? Isn't the market as a whole better served by having one relatively benign player and thereby having standardization?

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