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TENSILICA PATENT CHALLENGED

By Tom R. Halfhill {6/2/03-03}

MPR has learned that an unknown party is asking the U.S. Patent and Trademark Office to reexamine one of the patents on configurable development tools issued last year to Tensilica. The challenge doesn't attempt to overturn the entire patent, but it does try to narrow the scope of about half the patent's broadest claims. The challenged patent is number 6,477,683, one of two issued to Tensilica on November 5, 2002. Titled "Automated Processor Generation System for Designing a Configurable Processor and Method for the Same," it describes Tensilica's customizable Xtensa microprocessor and automatic development-tool generation. (See *MPR 12/9/02-01*, "Tensilica Patents Raise Eyebrows.")

Of the patent's 104 claims—including two independent and 102 dependent claims—the unknown party is challenging both the independent claims and 47 of the dependent claims. The request for reexamination raises "substantial new questions of patentability" about these claims and provides supporting documentation in the form of three articles and papers describing similar technology. All three documents were published at least a year before Tensilica filed the patent on February 5, 1999. The challenger is focusing on the patent's broadest claims and is trying to narrow their scope by citing prior art.

One article is "Retargetable Code Generation Based On Structural Processor Descriptions" by Rainer Leupers and Peter Marwedel, published in *Design Automation for Embedded Systems*, January 1998. Another document is a paper delivered at the Design Automation Conference in 1997 titled "ISDL: An Instruction-Set Description Language for Retargetability," by George Hadjiyiannis, Silvina Hanono, and Srinivas Devadas. The third document is "DSP Processor/Compiler Co-Design: A Quantitative Approach" by Vojin Zavojnovic, Stefan Pees, Christian Schlaeger, Markus Willems, Rainer Schoenen, and Heinrich Meyr, who delivered the paper at the 9th International Symposium on System Synthesis in 1996. Although these are the primary supporting documents, the request for reexamination also cites other references. The patent office has 90 days to decide whether it will grant the request and open the patent reexamination.

MPR found numerous articles and papers on similar topics while researching our December 2002 article on Tensilica's patents, and we also cited similar technologies developed by other companies. However, we were unable to find previous examples that duplicate Tensilica's whole system of using an instruction-description language to automatically and simultaneously generate a custom processor with user-defined extensions and matching software tools. (See "Earlier Configurable Processors: Close, But No Cigar," a sidebar to our December 2002 article.) The request for reexamination bears a lighter burden: it must persuade the patent office only that the documents it cites contain the requirements or "limitations" of the challenged claims. If the patent office agrees, it may cancel or modify those claims.

The challenger of record is James Isbester, a patent attorney in Berkeley, California. Isbester would not disclose the name of his client to *MPR*, saying only that the unknown party is "an interested member of the public." His client's interest is almost certainly more than casual. Patent consultant and *MPR* editorial board member Rich Belgard estimates that the 37-page request for reexamination cost $50,000 or more to research and write. The most likely challenger is a

company developing or possessing similar technology, such as ARC International or MIPS Technologies. Narrowing the patent's broadest claims would provide more breathing room to compete with Tensilica's unique tool-generation system.

Tensilica—which learned about the challenge when contacted by *MPR*—declined to comment, other than to note that if the patent office turns down the request for reexamination, the decision will effectively strengthen the patent.