

**UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent of: Morton et al. Case Nos. IPR2015-00158  
U.S. Patent No. 7,296,121 IPR2015-00159  
Issue Date: Nov. 13, 2007 IPR2015-00163  
Appl. Serial No.: 10/966,161  
Filing Date: Oct. 15, 2004  
Title: REDUCING PROBE TRAFFIC IN MULTIPROCESSOR SYSTEMS

**DECLARATION OF VOJIN OKLOBDZIJA, Ph.D.  
IN SUPPORT OF PATENT OWNER'S REPLIES IN SUPPORT OF  
MOTIONS TO AMEND**

I, Vojin Oklobdzija, PhD, hereby declare as follows:

1. My name is Dr. Vojin Oklobdzija. I submit this declaration in support of Patent Owner's Replies in Support of its Motions to Amend in IPR2015-00158, -00159, and -00163. I have been asked to offer technical opinions relating to U.S. Patent No. 7,296,121, the proposed substitute claims presented by the motions, and certain arguments of Petitioners and their expert in opposition to the motions to amend.

2. In addition to the documents which I already reviewed in connection with the declaration I submitted in support of the motions to amend, I have also reviewed the Petitioners' Oppositions to the motions to amend, and the exhibits cited therein, including the Opposition Declaration of Dr. Robert Horst. Nothing in these materials has altered my opinions from my prior declaration that the proposed substitute claims are patentable over the prior art of record to the '121

Patent, as well as the prior art (dating prior to November 4, 2002) which was known to the Patent Owner.

**I. PETITIONERS HAVE MISINTERPRETED AND MISCONSTRUED MY OPINIONS AND DEPOSITION TESTIMONY**

3. Petitioners' Opposition contains a number of statements which misinterpret my deposition testimony in this matter. Petitioners argue that I testified that I spent five to ten hours reviewing the prior art in connection with the motions to amend. However, as I testified at my deposition, I could not give "precise answers" as to the number of hours I spent on individual tasks "on the top of my head," but I estimated that I have spent over 60 hours in total, by the time of my deposition, in working on the pending -158, -159, and -163 matters.

Oklobdzija Depo. at 17:25-18:8. Likewise, my answers regarding "5 hours" and "10 hours" were referring to time spent *reviewing* sub-categories of prior art.

Oklobdzija Depo. at 21:7-24:12. I spent significantly more time, overall, working on the motions to amend, including analyzing the specific references discussed in my declaration in support of Patent Owner's response (including the Pong and Koster references), as well as the specific references named and discussed in my declaration in support of Patent Owner's motion to amend. Because there was significant overlap in the activities involved in my work on the Patent Owner Response and the Patent Owner Motion to Amend, it is difficult to precisely

estimate and apportion the relative time spent on each. However, I believe Petitioners' characterization of my work as "only spen[ding] about 5-10 hours reviewing the hundreds of prior art references of record" is both inaccurate and misleading.

4. I understand that the Petitioners also imply that I did not review or consider the Pong reference with respect to the newly added limitations in the proposed claims that recites "wherein said probe filtering unit is coupled to a coherent protocol interface and a non-coherent protocol interface." To the contrary, in my declaration in support of Patent Owner's motion to amend, I expressly stated that "[a]s to the limitation, 'wherein said probe filtering unit is coupled to a coherent protocol interface and a non-coherent protocol interface,' based on the prior art I have reviewed, I do not believe that such interfaces are taught in the art prior to November 4, 2002." Oklobdzija Mot. to Amend Decl. ¶

11. The Pong reference was included in the "prior art" referred to in that statement. *Id.* ¶ 7 (stating that, among other things, "I have also reviewed the prior art submitted in connection with IPR2015-00158, -00159, -00161, -00163, and -00172" and that such prior art was included in what I understood to "together" "comprise" the "prior art of record of the '121 Patent as well as all prior art to the '121 Patent known to the Patent Owner.").

5. In my analysis in connection with my declaration in support of

Patent Owner's Motions to Amend, I also identified the art that I thought was most relevant to these newly added limitations, including the other patents issued to Newisys, Inc. and naming Mr. Glasco as an inventor, as well as the Hellwagner reference. Oklobdzija Mot. to Amend Decl. ¶¶ 11-12. I did not identify the Pong or Koster references as the most material prior art regarding these limitations because I did not believe that they were material to these limitations. In particular, neither Pong nor Koster discuss or demonstrate a coherent and non-coherent protocol interfaces. Pong and Koster do not discuss non-coherent operations at all. Moreover, the Pong patent application, US 2002/0053004, describes itself as directed to "asynchronous cache coherence method and a multiprocessor system that employs an asynchronous cache coherence protocol" and identifies a single "Memory Control Path." Pong ¶¶ 12, 15, 28-30. This demonstrates that the Pong reference does not disclose a non-coherent protocol interface.

6. I understand that Petitioners characterize a portion of my deposition testimony as "admitting that a probe filtering unit with a path to main memory is a non-coherent interface." Once again, Petitioners misconstrue my testimony and opinions. At the deposition, counsel asked a "hypothetical" question about an incompletely described system, where "you have a system with a probe filtering unit, and it has paths going to cache memory, and then it has a separate path going to main memory." *See* Oklobdzija Depo. at 89:6-15. I understood counsel's

question of “[w]ould the path going to main memory be a non-coherent interface?” as asking which of the two paths in the hypothetical system would be the non-coherent interface, assuming that the system had coherent and non-coherent interfaces. Obviously, in a system with a coherent protocol interface and a non-coherent protocol interface, the non-cache coherent protocol interface would not be concerned with communicating with the cache. However, this does not mean, nor should my testimony be understood, as opining that any “path to main memory” is a non-coherent protocol interface, or that any system which has a “path to main memory” and supports coherent protocol operations necessarily practices these limitations. Indeed, as I testified, a “non-coherent interface” is an interface which does not have to keep coherency with the other caches in the system. Oklobdzija Depo. at 88:7-15.<sup>1</sup> Thus, a path to main memory *can* be a non-coherent protocol interface, but would not necessarily always be one. That is because a path to main memory could be accessed through a single interface which handles both coherent and non-coherent operations. Such a system would not be within the scope of the

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<sup>1</sup> This testimony is consistent with and merely restates the Patent Owner’s proposed construction of “non-coherent protocol interface,” which was stated in the motions to amend as “an interface for communicating with components in a computer system without regard to maintaining cache coherency.”

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