
This article is published in a peer-reviewed journal which only accepts original work. In the article, the authors, all members of the AMD technical staff with academic degrees, report their own work in developing this technology. They discuss the microarchitecture and capabilities of the AMD Opteron processor. Of particular relevance is their description of an advanced coherence protocol, with on-chip memory controllers, that use a highly scalable, low-latency interconnect network. Although not the most current work on the subject, this article lays out an important aspect of the technology which, in part, inspired the “Screwdriver” coherence protocol. This paper is of particular relevance to my project because it discusses the problem of race conditions arising from a full interconnect network, and it presents potential solutions.


This scholarly conference paper introduces token coherence. The authors develop *TokenB*, a “protocol that allows a glueless multiprocessor to both exploit a low-latency unordered interconnect (like directory protocols) and avoid indirection (like snooping protocols)” (p. 182).

Several factors indicate that this is high-quality research. This project passed through the NSF grant review process in order to be funded. *ISCA* is a peer-reviewed publication which has a very competitive review process and is the premier forum for computer architecture research. The authors all have a relevant scholarly background. At the time of publication, Martin was a Ph.D. student; Hill and Wood were both professors of computer science at Wisconsin The authors compare and contrast their coherence protocol with other protocols currently available, providing a suitable level of depth and detail for a scholarly audience. Through the discussion of both the potential and the limitations of the *TokenB* protocol, the authors present a balanced view which is supported by appropriate references. The analyses presented in this article informed the design of the cache coherence protocol described in this report.