

Eric,

A few comments on what you submitted:

- \* In general, I think it will help you to write an outline of the text before actually writing the text. You need to "play" with the flow of the text to make sure that it is strictly top-down and avoids repetition.
- \* The protocols you are looking at are not really directly applicable to CMPs (chip multiprocessors) but were designed for older systems. In particular, note that with the Origin 2000 there is part of main memory with every node. This is not the case on a CMP. The way you can "adapt" the Origin 2000 protocol to CMPs is to consider a CMP where the last-level cache is distributed across the nodes (cores) and you are ignoring misses from the last-level cache. So, if you want to talk about CMPs, you will need to explain the "mapping" of the Origin 2000 protocol to CMPs along the lines of the text above.
- \* There are no "ideologies" behind different protocols.
- \* The introduction needs to provide details about what you have actually done -- this is the critical part of the intro. In addition, it needs to provide a "roadmap" for the rest of the report. Look at published papers for examples of what you need in the intro.
- \* I assume that the material in the Background section is based on a textbook. You need to cite your references. Obviously, this also includes the paper about the Origin system.
- \* Do a search for "stages" -- in at least one place you use "stages" instead of "states".
- \* Before you get into the details of the protocols, you need to set the stage by explaining that a coherence protocol involves maintaining states for the blocks in the caches as well as request and reply message types exchanged among the nodes of the system. You should then explain the basic states as well as the basic message types.
- \* Why do you need a section "snoopy vs. directory-based"? Just have a section where you very briefly discuss

snoopy and dismiss it as not interesting (scalable).  
Then start discussing directory-based in a different section.  
The current presentation is very confusing.

- \* The top of page 4 is misleading. With snoopy protocols, there is no 1-1 communication -- every message (transaction) is broadcast to all the nodes.
- \* When you begin discussing directory-based protocols you must do so top-down. First, explain what is the directory, what information is stored there, how is this information used. Only then can you get into details.