



Silístix

NoC Symposium – panel session

John Bainbridge

8th May 2007

- This is a very appropriate panel topic as a standardized benchmark should help us all to strengthen and explain the effectiveness and relevance of the NoC approach.
- The timing is right too. The NoC community is growing, but still small enough to form a consensus on what is required.
- OCP-IP is doing a great service with this initiative. However, it will only succeed if everyone contributes to the working group's efforts.

What should it contain

- Support for comparison of all interconnects – buses & NoCs, clocked & asynchronous
- Support for any class of endpoint including asynchronous endpoints and protocols e.g. Handshake Solutions ARM966 & async AMBA-AHB
- Support for comparing design-flow impact of a NoC, e.g. on clocking, P&R, power-analysis, DfT...

How to get it adopted

- A single benchmark suite is essential. This effort is happening early enough to hopefully achieve this.
- Fragmentation is a risk if it doesn't meet everyone's requirements.
- Should be open-source and freely available
- Must continue to evolve with an increasing range of metrics to be measured.

Biggest obstacles

- It has to be relevant and usable for a wide audience!
 - A comprehensive NoC benchmark suite will have to apply metrics to many dimensions to accurately characterise a NoC.
 - How can the multidimensional results be presented in a meaningful and useful way?
 - Is there a suitable simplification?
 - The NoC user wants to be able to pick the right NoC or NoC settings to get his job done at minimum cost. How will the benchmark suite facilitate this?