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Execution platform modeling for system-level architecture performance analysis

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Citation

Živković, V. D. (2008, September 23). *Execution platform modeling for system-level architecture performance analysis*. Retrieved from <https://hdl.handle.net/1887/13140>

Version: Corrected Publisher's Version

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Note: To cite this publication please use the final published version (if applicable).

Propositions (Stellingen)

by Vladimir Dobrosav Živković, the author of

Execution Platform Modeling for System-Level Architecture Performance Analysis

1. Unlike Symbolic Instruction Traces, Symbolic Programs use separation of concerns to separate data dependent and data independent input streams.
2. The first rule when creating an abstract architecture model is to limit the behavior of the model to time and space aspects only. The performance analysis is then based on that behavior.
3. To model communication of an architecture instance realistically, not only synchronous but also asynchronous Inter-Process Communication paradigms must be explicit in the model itself.
4. Synchronization is in general a costly operation from the performance point of view, and therefore it should be explicitly included in the architecture model.
5. From the perspective of cycle-accurate simulations and synthesis-driven methodologies, the accuracy or confidence level of the abstract System Level architecture models is probably unacceptable.
6. Most criticism of System-Level models and analysis originates from designers who do not use system-level simulations and exploration-driven methodologies to design their architectures. They rather use guru approaches. However, unlike such guru approaches, (which inherent SoC design-bugs can bring down a SoC-producing company), System-Level architecture models lead to more successful designs by steering the abstract specifications towards better design choices (Abstraction Pyramid).
7. To hold an opinion about something or someone, one should have sufficient background knowledge and information. As a consequence, a person should not comment on a matter which the person is not familiar with because this could create more trouble than benefit.
8. Globalization is not the same as Internationalization: the former means that work roles and information are divided according to some criteria (usually established by the most powerful); the latter means that the work roles and knowledge are not biased to one or a few cultures.
9. Corruption is the major illness of the East (Europe) while hypocrisy is the major illness of the West (Europe).

10. For a small nation to have prosperous goals and increasing standards, its history must be such that "Powerful nations - being invaders or enemies of the smaller nation - should be at the higher civilization stage than the smaller nation is at that moment." With this history, though occupied, the smaller nation still develops.
11. Friendship is not just a matter of people commonalities - it is a matter of effort and readiness to accept the flaws of others while restraining one's own flaws. In other words, being less of an egocentric (selfish) person and being more of a team player.
12. People (or groups) accustomed to criticising others - notwithstanding the good intentions behind this criticism - most likely are unable to accept criticism themselves.
13. If in publication authors forget to give a credit, the synchronization in time of first appearances of ideas get lost.