Transformations for polyhedral process networks

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Stellingen
behorende bij het proefschrift
'Transformations for Polyhedral Process Networks'
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1. The derivation of polyhedral process networks is based on finding exact data dependence relations of program statements in static affine nested loop programs. Thus, in the derivation process, only data dependencies are made explicit and not the inherit parallelism of the application. Determining the degree of parallelism in the derived process networks is a totally different analysis.

2. Application transformations cannot be applied and explored efficiently and effectively without considering the application-to-architecture mapping and the communication/synchronization primitives that are provided by the target platform.

3. The problem of ordering the different transformations, and on which process a particular transformation should be applied, has a very simple but yet powerful solution, i.e., first splitting all processes and subsequently merging different process instances results in perfectly balanced compound processes.

4. For applications with fine-grained computations and corresponding implementation platforms, the gain of parallelization can easily be canceled by the costs for synchronization/communication.

5. The commercialization of research work (i.e., valorization) should not be the responsibility of the researcher.

6. The research field of embedded systems and software is a jungle of different hardware platforms and software tools. It should be unacceptable that experimental results are not reproducible as a result of the huge diversity in platforms/tools and commercial licenses.

7. A lack of shame increases the chance of selfishness behavior.

8. Near the end one starts to think about the beginning.