

## Review of the Master's thesis

Author: Bc. Jan Saro

Title: Distributed task Mapping in Reconfigurable Networked Embedded Systems

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This thesis deals with the distributed mapping of tasks in reconfigurable networks of embedded devices. The objective of this problem is to minimize the energy consumption of the network and extend the life time of the network. The problem is solved by a distributed heuristic algorithm based on a constructive approach with a backtracking step. The solution is compared with the same heuristic that uses Integer Linear Programming instead of the constructive approach.

To the best of my knowledge there is no similar work addressing an analogous problem in the literature. Jan Saro has shown that he is able to work with literature and he has proved that he is able to work independently. The proposed algorithm is able to solve a real word problem important for the design of embedded systems. The presented experiments show very promising results.

On the other hand, I am quite sure that it would be possible to simplify the algorithm. From my point of view states of the algorithm "Results" and "Verdict" (see Figure 12) are not necessary. These states increase the communication complexity of the algorithm. The decisions connected with those states can be made by the node that initiated the "Alert" message by monitoring the communication in its neighbourhood. Nevertheless, the aim of the thesis was to prove the fundamental idea of the algorithm which has been fulfilled.

With respect to the above mentioned pros and cons I propose to grade this thesis as "excellent" (A).

26<sup>th</sup> of May 2015 in Prague

Přemysl Šůcha