

Interactive comment on “A distributed computing approach to improve the performance of the Parallel Ocean Program (v2.1)” by B. van Werkhoven et al.

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Point by point reply to I. Honkonen.

9 December 2013

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We thank Dr. I. Honkonen for this comment.

1. *The hierarchical partitioning scheme described in section 2.3 does not seem novel by itself as the same scheme has been available e.g. in the Zoltan library for almost 10 years [1, 2]. Basically the only difference between e.g. figure 12 of [2] and figure 4 of this work is the number of partitions at each level of the hierarchy (2 and 4 vs. 4 and 3 or 2 respectively) and the algorithm used for partitioning (graph and IRB vs. block type respectively). In Zoltan one can also use any supported partitioning algorithm [3] independently of the algorithms used at other levels of the hierarchy, which does not seem to be possible in the presented scheme.*

At the time of writing this paper we were not aware of the Zoltan library. We therefore thank the reviewer for pointing out this library to us. In the revised paper, we will mention Zoltan as related work in Section 2.2 of the paper, and mention in Section 6 that in future work we plan to evaluate Zoltan as an alternative to our load-balancing approach.

2. *In light of the above I suggest the following changes:
In the abstract change ...two innovations to improve the performance of POP are presented
into
...two methods for improving the performance of POP are presented.
and
The first is a new block partitioning scheme...
into
The first is a block partitioning scheme...
In section 2.3 change Our new hierarchical load balancing scheme, like the rake and space-filling curve algorithms described earlier, assumes...*

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into

Our hierarchical load balancing scheme, like the rake and space-filling curve algorithms described earlier, assumes...

In section 6 change: The new hierarchical load balancing scheme was shown...

into

The hierarchical load balancing scheme was shown..

All these suggestions will be followed in the revised paper.