Geoscientific
Model Development
Discussions

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Interactive comment on "A fast input/output library for high resolution climate models" *by* X. Huang et al.

X. Huang et al.

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Dear David,

Thanks for your question.

In fact, we have evaluated the "NO-I/O" case to measure the pure computing time in all experiments (POP, CICE and LICOM cases study). The "NO-I/O" term indicates that all I/O operations are turned off as you expected.

For example, as shown in the Fig. 7 with N=320, you can read from the white stripe that the pure computing time is 500 seconds, and you can read from the the black stripe that the computing time plus the I/O time is 1450 seconds. In a sense, the I/O time in original CICE with serial NetCDF library is 1450-500=950 seconds. Using CFIO,

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we not only overlapped the I/O phase with the computation phase at client side, but also reduced the I/O time by using Parallel netCDF (PnetCDF) library at server side. The PnetCDF library has been integrated into CFIO. So our final score is 557 seconds when N=320, M=64.

I hope my reply gives you some needed answers.

Thanks, Xiaomeng

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