

TM5-MP - Bug #320

Budget inconsistencies

02/20/2015 07:57 AM - Philippe Le Sager

Status:	In Progress	Start date:	02/20/2015
Priority:	Low	Due date:	
Assignee:	Philippe Le Sager	% Done:	0%
Category:		Estimated time:	0.00 hour
Target version:		Spent time:	0.00 hour
Description			
<p>when comparing a run with 45 procs with one with 9 procs (both with reduced grid, only latitudinal mpi decomposition), output (mmix, restart) are identical bit-for-bit, except the budgets:</p> <pre>check budini ... 28432 (out of 39168) differences found in budini max diff. in : [8, 21, 33] (rel.diff. 0.000000 %) where field #1 = 6.9922226493487276e+28 where field #2 = 6.9922226493487382e+28 check budadvx ... 38668 (out of 39168) differences found in budadvx max diff. in : [8, 21, 33] (rel.diff. 3500.000000 %) where field #1 = 7123649972633.0312 where field #2 = 256451399014789.22 check budadvy ... 38516 (out of 39168) differences found in budadvy max diff. in : [8, 21, 33] (rel.diff. -0.000000 %) where field #1 = -2.1878826532546108e+27 where field #2 = -2.1878826532549399e+27</pre> <p>while the 0% are expected (for aggregated budgets, the different mpi layout change the order of operations), the 3500% is puzzling and requires explanation.</p>			

History

#1 - 03/04/2015 03:52 PM - Philippe Le Sager

- Subject changed from X-advection budget to Budget inconsistencies

Further comparisons between 45 and 22 cores, still for a short 3h-run. I isolate three buggy budgets:

```
check budadvx ...
  38320 (out of 39168) differences found in budadvx
  max diff. in : [8, 20, 33] (rel.diff. -114.423077 %)
  where field #1 = -61738299762819.633
  where field #2 = 8904562465791.291
```

```
check budchem ...
  44700 (out of 50796) differences found in budchem
  max diff. in : [9, 22, 33] (rel.diff. 164.438222 %)
  where field #1 = 766920097792.0
  where field #2 = -494189674496.0
```

```
check budconv_cp ...
  30714 (out of 39168) differences found in budconv_cp
  max diff. in : [1, 5, 14] (rel.diff. -6.499508 %)
  where field #1 = -2.2055309866594325e+22
  where field #2 = -2.3488796472526816e+22
```

Again, j-stat, mmix and restart files are bit-for-bit identical: this is **purely** a budget issue.

#2 - 01/28/2016 01:00 PM - Philippe Le Sager

- Priority changed from Normal to Low