A few facts and thoughts about 'Convergence'

The ALADIN PM

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There seems to be some consensus for pursuing Actions A (DDH-type diagnostics) & B (governing equations and tendency computations)

For Actions C (microphysics) & D ('3MT in ARPEGE') the issue is far less clear-cut

Historical recall: the various 'officially agreed' positions with respect to the interactions between M-F's and Partners' modelling R&D efforts within the Consortium

- April 2003 – January 2005 : 'Tool box'
- January 2005 - June 2007 : 'Interoperability'
- June 2007 – May 2010 : 'Convergence'
- May 2010 - ????????? : …vergence !

A permanent reduction of ambitions … currently ongoing!

Reminder of Dijana's very telling joke '***we would need 'internal interoperability***'

There are several reasons, why the status quo cannot be further maintained …

- Very demotivating for those who invest before witnessing a unilateral change of course of the other party.
- Lack of precise definition of the targets (about what should be a 'Convergence action' in domains 'C' and 'D').
- Confusion between operational and R&D aspects.
- Dialogues of the type '*you are too smart for us to work with you*' followed by '*you only care about your own problems*' are of course not at all advancing the cause of good science!

Issues ‘C’ and ‘D’ are now (alas ?) deeply inter-related … (1/2)

- ALARO people believe that the ‘cloud geometry’ problems in microphysical computations can be technically separated from the ones on ‘auto-conversion, collection, evaporation/melting’. The flexibility of choice at the level of ‘geometry’ is anyhow a prerequisite for having the key ingredient of 3MT, i.e. the joint input of all condensation sources to the microphysics. Otherwise there is too much evaporation in the convective precipitation case and overal results are bad.

Issues ‘C’ and ‘D’ are now (alas ?) deeply inter-related … (2/2)

- M-F people believe that the added complexity needed to make from the above ‘technical separation’ a transversal code-constraint is impeding R&D. Hence they claim that each side should decide alone what they should intercompare or not.
- Both standpoints are currently irreconciliable. If the situation changes, it can only be through ***parallel*** progress on (i) the ‘microphysics’ and (ii) the ‘geometry + interplay of preciptation sources’.

What may PAC recommend to GA?

- (1) Withdrawing actions ‘C & D’ from the ‘Convergence’ process.
- (2) M-F commits itself to make PC-MT ‘*ALARO-physics-compatible*’, so that Partners may make extensive clean comparisons of the respective merits of PC-MT and 3MT.
- (3) Partners and M-F codify clearly what was vaguely called ‘*3MT in ARPEGE*’ in 2008. M-F accepts that Partners will do the relevant development, with a bit of help for validation. The resulting ‘tool’ is available for tests alike in solution ‘2’

Not possible for Météo-France

May be considered with additional constraints on geometric treatment and resolved ⇔ parameterised handling

What may GA debate about ?

- The choice seems to be between solutions (1) and (3-bis).
- In the first case there will at least be no more bad surprises, but the likely evolution will be towards 'competition' rather than 'complementarity'.
- In the second case a WG will have to take over the issue on the scientific level, …
- **But** psychological aspects will surely not be solved by scientific work (*a political willingness is necessary*):
  - can the Partners ask M-F for LOCAL code interoperability on issues where there is a global application at stake on one side and not on the other one?
  - can M-F continue at the same time to claim the right to 'master' its own code in ALL details and judge alone whether or not solutions proposed by Partners do fit to this need?
- Those yes/no questions should indeed be transformed in more nuanced issues … but how?