

**CSSI-LTM-ST meeting**  
**8 October 2010, 8:30-13:00**  
**Exeter, UK**

Participants : Mohamed Arab Benamara (rep LTM Dz), Yong Wang (CSSI rm, rep LTM At), Alex Deckmyn (LTM Be+CSSI), Piet Termonia (CSSI), Alica Bajic (LTM Hr), Filip Vana (rep LTM Cz), Claude Fischer (LTM Fr+CSSI), Jean-Francois Geleyn (PM), Jean-Francois Mahfouf (CSSI), Jean Maziejewski (ST), Patricia Pottier (ST), Gergely Boloni (rep LTM Hu), Hassan Haddouch (LTM Ma), Marek Jerczynski (LMT Pl +CSSI), Doina Banciu (rep LTM Ro), Neva Pristov (LTM Si), Ersin Kucukkaraca (LTM Tk)

**1. Opening**

**2. Adoption of the agenda**

**3. Approval of the minutes of the Cracow CSSI-LTM-ST meeting**

No remarks were made. The minutes are now published on aladin website : <http://www.cnrm.meteo.fr/aladin/spip.php?article108>

**4. Report from intermediate meetings (PAC, Brac-HR, MoU4 redaction) and presentation of the timetable of the future meetings**

At several LTM meetings in the past the LTMs asked to be better informed about the decision making in ALADIN, in particular the PAC meetings and the GA. In order to improve this, Piet Termonia (PT) as CSSI chair reported to the LTMs about the 6th PAC meeting where one of the main topics was the report of Brac meeting (scientific meeting organized before the strategic meeting to be hosted by an HIRLAM partner at the beginning of 2011):

- He explained, specifically, that Brac was not conclusive on one issue namely about the need to move to a different dynamical core. In order to make an “educated” strategic decision four combinations (2 different dynamics : spectral dynamic and local dynamic Runge Kutta; 2 different physics : AROME and ALARO) should ideally be compared beforehand from a scientific point of view. We don't have the complete physics-dynamics interfaces to do these comparisons. No consensus was reached during Brac meeting (see the huge document prepared by Jean-François Geleyn - JFG).
- After the results presented during this EWGLAM, the scalability issue seems more transversal and complicated than expected, but maybe less urgent. The system ET will work on it (according to yesterday SRNWP advisory committee).
- A “bridging” action was proposed by PAC : 4 members from HMG and CSSI (Bénard, Vana, Tijm and Hortal) will provide input to the follow-up workshop of Brac, in order to harmonize short-term and long-term strategies. PAC will follow closely this action (P. Bougeault, R. Brozkova).

Claude Fischer (CF), as chairman of the MoU4 redaction committee, explained the process that led to the last draft version: input was obtained from the Athens CSSI-LTM meeting, guidelines from the Istanbul GA (cleaning but not changing everything, good separation between organisation

of ALADIN that should be in the MoU and science and strategy that shouldn't be). A first step toward ALADIN-HIRLAM is done through the new possibility of common Task forces. A first draft version was sent to all Directors beginning of July. A second draft version (that takes into account all comments made by partners) was sent at the end of September for a check of the formal, editorial aspects. This version will be presented in GA for signature. Yong Wang (YW) asked about the changes for LTMs. CF explained that the new MoU stresses in a clearer manner the participation of LTMs in preparing the workplans, and that the MoU insists on the necessary local support of their director. The transversal role of CSSI members at the scientific level is also stressed. Dijana Klaric (DK) asked about the nomination in the new MoU4 governance. JFG and PT will define the procedure next week; then the list of positions (PAC and CSSI) will be sent to LMTs to be discussed with their Director. The list of proposed CSSI members will be presented to PAC for nomination by GA.

## **5. work plan: finalizing the common HIRLAM-ALADIN work plan 2011**

This topic was treated together with point 6:

## **6. work plan: comments on the current procedure, 4-year work plan mid-term risk-evaluation**

A new procedure to collect all the input from CSSI/LTM and redact the work plan was adopted by Istanbul GA and applied in 2010 (the planning starts at the ALADIN Wk; then PAC prioritizes; in EWGLAM, the draft should be discussed before presentation to PAC/Bureau, then to GA). The LTMs would be a bit more solicited (cf their increasing role in MoU4). The HAC meeting proposal (to merge more with ALADIN with the redaction of a common plan by ALADIN and HIRLAM PMs) has complicated the procedure ! Jeanette Onvlee (JO) and PT invented a new structure of the plan that allows to accommodate all the topics from ALADIN work plan and the HIRLAM work plan in a common frame (the format being inspired by the HIRLAM one). This document was sent to the LTMs with a very short deadline for contributions. Also the procedure turned out to be quite complicated (28 countries, PAC, HAC) and, this year, the CSSI chair who prepares the work plan and the -future- PM who checks it, is the same person! **Thus, each LTM should check if the contribution of his team is well taken into account in the final document and remove people from the plan if they are no longer expected to work on the topic in 2011.** If some CSSI-LTM find errors on a specific topic, they should report to PT with copy to the CSSI responsible of the topic. **CSSI members should check whether nothing is missing.** JO wants to sent the contents of the 2011 work plan to HAC (25-26 October) without manpower (it will be added later). PT and JO will also add an annex to the work plan to take into account Brac discussions.

**For this transitional year and first common work plan with HIRLAM, let's be both flexible and structural. PT will put deadlines ... with a friendly reminder before deadline !**

ALADIN 4-year plan (2009-2012) and its links with various NWP internal collaborations, especially HARMONIE : a second updated version was prepared after the 2009 ALADIN GA by the ALADIN CSSI chair and the PM (see preparatory document).

**PAC asked the PM to prepare a risk-assessment of the mid-term plan.**

Doina Banciu (DB) underlined that some topics need special attention, i.e. verification. As Romania has some people to work on it, the question becomes how to "officialize" the common work with Poland? And in general, how to cooperate better within country? For a subject with high priority, the creation of a task force could be proposed to PAC or HAC but it's not necessary to cooperate between 2 countries. One should keep in mind that there is no special money for task forces; the

task forces allow the protection of the person in charge of the topic (dedicated part of his/her time).

## **7. SURFEX: code optimization and numeric performance**

CF reported on the version of SURFEX adapted for the MF benchmark tests. This version was realized with a minimum of changes (a document is available, in French only). The impact depends on configuration of the model, on the platform : SURFEX with open-MP on NEC doesn't bring a benefit in AROME ; small benefice on computational time on IBM in ECMWF. A test could be done with ALARO to see the technical – not scientific – benefice. The next step is to make available these modifications to the whole ALADIN community. These changes have been prepared with GMME and will re-enter SURFEX version 7. Jean-François Mahfouf (JFM) indicated that this new version can be tested outside MF; there will be no more effort to optimize SURFEX for the benchmark at MF. MF can provide the modified code for tests to any partner, presently outside the official model libraries.

JFG asked when it will enter the cycles. PT asked how to ensure that if the partners work on an off-branch version, that there work will enter the system.

PT proposes that CSSI meeting agrees on this conclusion: partners should start to test the new version of SURFEX but they will only do it if PAC addresses the issue of the taken into account of proposed modifications into the cycles. PT and JFG will propose a redaction of the question to be addressed to PAC.

The message to be passed to PAC is this:

- The work carried out by MF is greatly appreciated by CSSI and represents a substantial step forward.
- At the meeting it was identified that this work does not guarantee that it may fully solve the problems of the partners.
- So partners, ideally, should start testing the solutions put forth by Météo France on their own platform.
- A problem with that is that, for justified reasons, these modifications will not enter a common, official model release in the short term (typically, before spring 2011 if not the summer). This causes the following problem for decision. Either the partners: (a) wait, or (b) create an intermediate branch and work on that.
- PM and CSSI chair subsequently identified the following issues:
  - They found that, the first, i.e. the waiting strategy, is not favorable. In the second case, we have to take great care of the coordination: (i) each partners (including MF) should be aware of the developments of the other, otherwise we make create conflicting developments and (ii) at the policy level, special care should be taken that the developments of one partner should not hamper the ones of another.
  - General speaking the present policy of giving priority to the “external” maintenance of one piece of community code should be discussed at PAC, since it might not be the best long-term progress avenue.

PT asks about the implementation of SURFEX in ALADIN and its use for downscaling. JFM gives the example of ALADIN overseas (first operational implementation at MF is planned with SURFEX only in forecast mode; in a 2nd step, SURFEX will be used also with its assimilation component). MF contacts for experimentation are François Bouyssel, Françoise Taillefer or the French LTM.

PT raised the problem of the numerics and the question whether SURFEX is suitable to be used with long time steps. He mentioned that, for example, in the RMI (Belgium) there is expertise on the approach of Best et al., that could be extended to more complicated schemes in SURFEX. This will be given a bit more priority in the work plan. JFM proposes Valery Masson as contact point for this topic, at the equations level.

## 8. convergence actions, update and link with strategic issues

PT stresses that it's important to continue the work and to define a longer strategic time scale. JFG feels that the situation is very complicated situation and the motivation at MF for convergence seems to have completely vanished. CF answers that MF physics people will produce the document they promised about APLMPHYS. DK proposes to report at PAC on this long term problem about convergence : JFG will prepare the report and ask for this point to be put on the agenda of the GA.

## 9. The ECMWF BC project

This point was already mentioned this week : see subgroup recommendations. There is not a real signal for LAM EPS BC : we will know more after the next meeting in Bologna and the workshop hosted by ECMWF. There were 2 options to provide LBCs for LAM-EPS : one option with an increase resolution, the other with more members. COSMO and HIRLAM had opposite request, ALADIN (LAEF, GLAMEPS, MF) had no special requirement for one option or the other and ECMWF wants a clear signal of what the consortia wanted (in the hands of SRNWP now).

## 10. maintenance issues

CF reported on the last and future cycles. The last export version ( CY36T1\_bf.08) was prepared early with a longer validation (quality insurance). For next phasing, **Meteo-France will be happy to invite phasers with some code experience: this is a call for participations on regular duration basis (1 phaser during 6 weeks or 2 phasers during 3 weeks with a short overlap).**

A maintenance Workshop was successfully (thanks to Olivier Rivière) organized in Toulouse, September 20-22, 2011: attendance of 22 people for practical exercises (more during theoretical presentations), with rather newcomers from ALADIN and more expert systems from HIRLAM. For future workshops (not every year), it was proposed to add a first day for newcomers only. One shouldn't consider this sort of workshop as enough to transform newcomers in code phasing experts: **training and knowledge is also necessary locally and continuously.**

CF summarized the OOPS purposes: restructure the IFS code in a more object oriented code with both a top-down approach (how far should we go toward oriented object: toy model and prototype 3D-var; work with ECMWF with proof approach) and a bottom-up approach (from the code : work with ECMWF; check LAM and fullpos aspects). The exact calendar is under discussion but the work has already started at ECMWF, GMAP will start from January 2011. The help of the partners is welcomed but this must really concerns people who know the code (same as for phasing ...). The general feeling is that we are badly missing a wider scope of potential technically aware people that can come from time to time to phasing. For JFG, the LMTs should be aware of the fact that there is more and more division of work inside the team and we have less people knowing science and code; we shouldn't have independent phasers and scientists and it's up to each team to share the tasks differently.

DK asks about the participation of HIRLAM to the maintenance. CF answers that we will have to

find some adaptations to benefit from their efforts (phasing is a long process ...) and we will have to be imaginative : CSSI will be implied.

#### **11. SRNWP interoperability and verification programs**

A lot of information about these programmes was exchanged during the EWGLAM meeting during the week. Marek Jerczynski proposed that Polish can contribute on verification programme with the new methods he presented (tool “filters”). Romania (DB) was interested in this topic. Slovenia has worked on the former ALADIN verification system but has no work force for this topic. JFG proposes that Marek will work with Doina to test his tool internally within ALADIN before going to SRNWP level.

#### **12. AOB**

Nothing.

#### **13. closing**