

Minutes (draft) from the AAA meeting, 13/02/2004, Prague

Participants

Doina Banciu, RO
Francois Bouttier, MF (AROME Project Leader)
Radmila Brozkova, CZ
Maria Derkova, SK (redactor of the Minutes)
Claude Fischer, MF
Jean-Francois Geleyn, MF & CZ (ALADIN-2)
Luc Gérard, BE
Dominique Giard, MF
Gwenaëlle Hello, MF (ALADIN-2)
Andras Horanyi, HU
Martin Janousek, CZ
Dijana Klaric, HR (LACE Project Leader)
Patricia Pottier, MF
Neva Pristov, SI
Filip Vana, CZ
Yong Wang, AT

1) Opening

The 'AAA' (AROME-ALARO-ALADIN) meeting was opened by Dr. Ivan Obrusnik, Director of CHMI & Vice-Chairman of the RC LACE Council.

2) Adoption of the Agenda

D. Giard proposed two changes in the Agenda (DRAFT VERSION APPENDED):

- to move Item 9 (about the forthcoming ALADIN workshop in Innsbruck) earlier on the schedule since the Austrian representative had to leave before the estimated end of the meeting. This suggestion was accepted.
- to add a new point to the Agenda: cooperation with HIRLAM. This point was included to AOB.

Otherwise the Agenda was adopted as proposed.

3) Introductory talks on the general constraints of the considered projects

Introductory talks were given by J.-F. Geleyn, G. Hello, F. Bouttier and D. Klaric.

* J.-F. Geleyn presented the ALADIN-2 project from the view of ALADIN Partners, their rights and duties. He stressed the need to revisit the way of the work organisation and coordination in the new environment.

* G. Hello recapitulated the new terminology to be used around ALADIN-ALARO-AROME, as it was proposed by D. Giard and G. Hello. The new terminology was necessary because the names ALADIN/AROME were used confusingly in several meanings (e.g. project, model and source code).

* F. Bouttier summarized the status and perspectives of AROME project at Meteo-France. He put the fundamental question of the possible transition between ALADIN and AROME: if Partners want to avoid the anticipated big jump and rather prefer "smoother" evolution via ALARO model, they must invest manpower to ALARO ! And the amount of invested manpower is directly linked to the speed of the progress of the model's development.

* D. Klaric presented the position of LACE, which asked to organize this AAA meeting with the aim to clarify the views of the concerned bodies and to get some guidelines how to start real work on ALADIN-2.

THE FULL CONTENT OF THE PRESENTATIONS CAN BE FOUND ON THE WEB.

4) Round table discussion of transversal problems

The discussion started by reopening the questions from the last AA meeting (April 2003, Prague). Soon it turned out that the main point to be answered is, whether we (ALADIN Partners) need ALARO or not. In other words, do we need one transition (ALADIN -> AROME) or two (ALADIN -> ALARO -> AROME) ? The first transition (ALADIN -> ALARO) shall be understood as the change of the source code, and it shall be harmonized within the Partners as much as possible (preferably within one model cycle). The reason is, that the file structure will change, also externalization of some tools is expected (e.g. surface scheme).

This event, from the point of coordination shall be similar to the change of the ISBA surface scheme in 1998. The second transition will be in the means of cost (CPU, Memory) when starting to use the AROME model (or some of its advanced components). Scheduling of this second step can be left on individual choices and opportunities of each Partner.

It was mentioned that, given the pressure of the forecasters and directors to continuously improve our NWP models, no calm period to concentrate on AROME development only can be expected. Also, many NWP groups expressed their problems either with the manpower to be devoted to R&D tasks or with the money to buy computer strong enough to run AROME model. Thus they prefer an intermediate model for their applications. Meteo-France would probably also need a model with about 10km resolution to couple AROME with it (at the same time Météo-France promises to maintain ALADIN software as long as any of the Partners would really need it).

On the other hand it shall be kept in mind that the intermediate step via ALARO model will require additional man-power. Especially some duplication of the work can be envisaged in the field of physics. Three potential problems worthwhile to be worked on within 2-3 years (ALARO shall be working in 2006) were identified:

- shallow convection at high resolution
- deep convection
- grey-zone problem

Also the worry was expressed that splitting the work between too many (sub-)projects can slow down the progress of the model evolution.

However, ALADIN Partners opt for more transitions in their NWP applications. They are aware that the higher level of work coordination and organization will be needed.

Thus, the question of the work coordination was again raised. First, it was stressed that Meteo-France has devoted two persons to ALADIN-2 project and that they can also finance the work of external people on the project ("seeding money" in the vocabulary of P. Courtier). It is desirable that ALADIN Partners dedicate special man-power to ALADIN-2. LACE would finance such coordination work as well.

The persons to be contacted in case of interest to work on particular topic were identified:

F. Bouttier for AROME (direct contribution to the sub-project development)

J.-F. Geleyn and G. Hello on ALARO and ALADIN-2

D. Giard shall be kept informed in both cases since she is the ALADIN contact point in Toulouse in all cases.

The "tool-box" sub-project name was found to be puzzling and not well understandable, and it was proposed to change it to "interfaces".

Concerning the code evolution, it was mentioned that the rules of phasing will be provisionally broken. Phasing will be less often, the first back-phasing of the AROME development into ALADIN code is expected in 2005. Also the notice was given of mesoNH physics not following the IFS coding standards.

5) Recall on the way how the preparatory documents for the 2004 work plan were built up and on the contributions used for it

G. Hello recalled how the ALADIN-2 working plan for 2004 was prepared.
THE FULL CONTENT OF HER PRESENTATION CAN BE FOUND ON THE WEB.

6) Detailed study of the draft plan, preparation of a more complete version &

7) Synthesis on the 2004 working plan, balancing of the available contributions across sub-projects and thematics, consequence on the Toulouse stays

The discussion on both Points 6 and 7 is summarized below:

The Work Plan (WP) is divided according to the sub-projects. Each sub-project is divided into the sub-topics with the short description of the work needed, priority level, nominated people (those with the question marks were not contacted yet) and the task coordinators/contact points.

It was noticed that in the WP there are countries without any contribution. It was explained that some of the coordinators among the ALADIN Partners did not respond to D. Giard when WP was in preparation. Therefore there are some countries missing and some people are listed with question marks.

It was noted that in the WP the information about the estimated manpower and the amount of work already done could be helpful together with the information, where the particular work shall be performed.

It has been stressed that Meteo-France is not interested in the so called "grey-zone" problem (hence it does not participate on ALARO-5km sub-project).

Talking about the ALADIN-2 2004 research plans point by point was not very productive. Therefore it was decided to concentrate on the topics with priority level 1.

NO DETAILS ARE GIVEN HERE, SINCE EVERYTHING IS ALREADY INCLUDED IN THE UPDATED WP AVAILABLE ON THE WEB

The WP will now be updated according to the decisions taken on this meeting and made available to ALADIN Partners. They shall discuss it internally and then concerned people may contact directly the topic coordinator (and keep informed the project coordinators as well as mentioned above).

8) Programation of the next steps

Other coordination meetings similar to this AAA shall be organized during:

- the 14th ALADIN workshop in Innsbruck
- the Assembly of ALADIN Partners in Split (October 2004, see point 10)

- the EWGLAM/SRNWP Oslo 2004 meeting

(As pointed out by D. Giard, this plan might be too ambitious as a lot of money will be needed for so many implied travels.)

9) Definition of priority topics for the Innsbruck 2004 ALADIN workshop

Y. Wang recalled the date and the venue of the 14th ALADIN workshop. D. Giard raised the question on the special topics to be discussed during this workshop apart of the already announced one (Deep convection in the grey zone). The following suggestions has been made:

- to extend the main workshop topic to "Developments and plans in physics" in order to attract more scientists

- to discuss the prototype of the common verification tool developed by Slovenian colleagues: the tool shall be ready till workshop, the information and user guide shall be provided, the tests of its usage shall be discussed

- reflecting the increasing interest of the ALADIN community, to talk about the predictability issues & LAM EPS: as informed by Y. Wang, there should be an invited speaker - an external expert on EPS

- the potential next European Research and Training Network after ALATNET shall also be discussed, hence the HIRLAM, MO and COSMO representatives shall be invited to the workshop

- information on the MF ALADIN 3DVAR prototype (this proposal was not accepted since there are already two other DA workshop on European level announced so there is no point to cumulate DA experts on the third place)

10) Decisions concerning the calendar and scope of the "extended Split Assembly"

The 9th Assembly of ALADIN Partners is scheduled for the last week of October 2004 in Split, Croatia. Due to the importance of the topics to be discussed there (see below) it was proposed to have one and half or two days meeting (Friday and Saturday). There shall be separate LACE session meeting organized one day prior the Assembly (Thursday).

The Assembly shall focus on the preparation of next MoU which would reflect new situation (new project ALADIN-2) and on its consequences. The main topics for the discussions and their input shall be carefully prepared. The repetition of the "ACTIM'96" event shall be considered. The absence of the Minutes from the previous Assembly in Cracow, as the first input, was regretted.

In order not to disturb the attention, some "usual" items from the Agenda can be omitted (e.g. the manpower commitments).

Also it was suggested to prolongate the validity of the ALADIN research plan for one year, so it matches with the validity of the MoU. There shall be an official letter to all directors describing the latter proposal (BUT WHO WILL WRITE IT? THIS WAS NOT DISCUSSED). If accepted, the evaluation of the ALADIN research plan will not take place on the 9th Assembly.

Noting the tendency of the last Assemblies and the importance of the forthcoming one it was stressed that the participation of all directors is of big importance.

The invitation of HIRLAM and ECMWF representatives to the Split Assembly was also recommended.

All this effort shall culminate at the 10th Assembly of ALADIN Partners to be held in Bratislava, Slovakia (preliminary November 2005) by signing of a new Memorandum of Understanding.

11) AOB

Cooperation with HIRLAM: J.-F. Geleyn summarized the history of the HIRLAM & AROME cooperation. The original proposal of their Management Group to deeply collaborate on ALADIN-2/AROME projects was not accepted, nowadays HIRLAM considers to import ALADIN/NH dynamics and to participate on the code, namely on the development of the interface (to be able to plug-in their physics). They will for sure keep their data assimilation and also the name HIRLAM. Also situation can change with the new Project Leader, to be elected in autumn.

Due to the above mentioned uncertainties D. Giard suggested to currently suppress the word "HIRLAM" and associated sentences from all strategic documents on ALADIN-2.

However, a special training is to be organized in Toulouse on ALADIN and its NH aspects for HIRLAM people during the twelveth week of 2004. A puzzling situation occurred as similar NH training was already required by LACE, because several people consider the change of their main subject to NH dynamics. But, the training in Toulouse is rather for newcomers, with some general lectures on ALADIN etc. Therefore it was proposed to organize separate LACE NH training (in Prague), with added topic focused on "interfaces" and the possibility to re-invite interested HIRLAM people (and other ALADIN countries, of course).

THESE MINUTES ARE COMPLEMENTED BY THE APPENDED 'DECISIONS SUMMARY'

MEETING 'AAA' – 13th February 2004 – Prague

Draft Agenda

- 1) **8h45 : Welcome and opening** (Dr. I. Obrusnik, Director of CHMI & Vice-Chairman of RC LACE's Council)
- 2) **Adoption of the Agenda**
- 3) **Introductory talks on the general constraints of the considered projects ;**
Chairperson, I. Obrusnik:
 - a. 8h55 : ALADIN2-ALARO (J-F Geleyn & G. Hello)
 - b. 9h10 : AROME (F. Bouttier)
 - c. 9h35 : LACE (D. Klaric & T. Haiden)
 - d. 10h00 : ALADIN (D. Giard)

10h10 Coffee break

- 4) **10h20 : Round table discussion of transversal problems ;** *Organisator and Moderator, A. Horanyi*
- 5) **11h30 : Recall on the way the preparatory documents for the 2004 work plan were built up and on the contributions used for it** (*G. Hello*)
- 6) **11h45 : Detailed study of the draft plan, preparation of a more complete version** (*Chairperson, R. Brozkova*)
 - a. **First split by subprojects (TOOLBOX, AROME, ALARO-5km, ALARO-10km, ALAROPAC, ALADIN)**

12h45-13h45 Lunch break

- b. **Detailed split by scientific themes :**
 - i. Physics
 - ii. Data Assimilation
 - iii. Predictability
 - iv. Dynamics
 - v. Coupling
 - vi. Verification
 - vii. Maintenance and optimisation
 - viii. Operational evolutions

16h10 Coffee break

- 7) **16h20 : Synthesis on the 2004 workplan, balancing of the available contributions across sub-projects and thematics, consequences on the Toulouse stays, ...**
- 8) **Programation of the next steps (training actions, coordination meetings, milestones, dependencies, ...)**
- 9) **Definition of priority topics for the Innsbruck 2004 ALADIN-workshop**

10) Decisions concerning the calendar and scope of the 'extended Split Assembly'

11) AOB

12) Closing

Decisions summary

MAIN CONCLUSIONS OF THE SO-CALLED "AAA MEETING", PRAGUE, 13/2/2004 (document prepared by Jean-François Geleyn and sent on February 25)

- The proposal for clarification of the terminology was accepted, with the replacement of the name 'TOOLBOX' by the name 'INTERFACES' for one of the sub-projects.
- It was decided to disconnect for the time being the launching process of ALADIN-2 from the HIRLAM problematic.
- The need for the ALARO 'intermediate step' between two transitions (on the way from ALADIN to AROME) was confirmed by the nine Partners attending the meeting (representing a majority of the ALADIN workforce). The first transition will be in the source code (ALADIN => ALARO) and it shall be harmonized within Partners as much as possible, also because of the associated change in file structures and of the externalisation of ISBA. In its standard version it should also imply some additional costs, for the parts where one will know that the Meso-NH physics is worth adapting to any scale (at least microphysics and turbulence, quite likely). The second transition will be in the cost (CPU and memory) of going to the scale of resolved convection and of 3D turbulence and will be on individual choices of each Partner, depending on its mastering of the new tools and on its computing capacity. The separation between these two transitions shall make the whole exercise as smooth as possible in a still coordinated ensemble. Indeed some evolution of the NWP applications during the ALARO intermediate step will be encouraged, especially if some progress happens in the treatment of the 'grey zone' problem.
- The question of "critical mass of manpower" was raised, with the comment that so many subprojects might cause an exaggerated spread of the current human resources, something that may even slow down the ALADIN-2 progress. ALADIN Partners were again made aware that the chosen "intermediate step" between two transitions will imply some additional effort, but they judged it still appropriate to their situation with respect to AROME and ALADIN.
- The respective role of operational codes, prototypes and Meso-NH software in the R&D of most ALADIN-2 actions was clarified, even if some uncertainties can only be treated later.
- There exists now a rather detailed ALADIN-2 workplan for 2004 that should:
 - be the basis for first urgent actions;
 - help to a reformulation of the strategic document, this leading, with the help of Slovenia, to a political translation of the now chosen orientations (effort targeted for the next Assembly in Split);
 - allow the quick mobilisation of especially dedicated manpower transversal resources fostered by Meteo-France and LACE, in order to reach the missing critical mass of coordination and supervision work, in particular on ALARO.
- The 'tool-box' and 'convergence' basic principles still exist to structure the ALADIN-2 actions, but they should be taken more pragmatically. In short, their concretisation should be sought only when really necessary (physics-dynamics interface and coupling file creation vs. use, for example).
- Concerning the question of a potential internal competition between solutions either coming from differing origins or meant for different purposes, only three areas in the physics of ALARO were identified as really requiring the security of separate efforts (deep convection, macro vs. micro physical aspects in the 'grey-zone' and shallow convection), this leading to a small but unavoidable overhead. Elsewhere one should rather aim at specific declinations (e.g. for efficiency and stability at long time steps) of

the same 'AROME inspired' software. Dynamics and data assimilation are not supposed to require the same level of attention on this particular point.

- Priorities within the preliminary synthetic planning document were examined, work force was redistributed whenever necessary (except that the problem of lateral coupling is obviously undermanned, at least for the time being) and the harmonisation with the LACE plan required the suppression of two items of the latter (plus the consequences of the above-mentioned transversal adaptations). The individual cases of people having to change topic as soon as feasible were also scrutinised whenever identified. Dominique Giard will produce an up-to-date version of the 2004 plan for topics put in 'priority one', the other (non-discussed) items being left in Appendix.
- Concerning the preparation of the Split Assembly (29-30/10/04):
 - one aims at a one and a half day meeting;
 - steps should be soon taken to ensure the best possible level of attendance, given the importance of the event;
 - it is assumed that the work plan coming out of the present Prague meeting helps extending the ALADIN current official scientific plan until the end of the second ALADIN-MoU (hence one can concentrate at the Assembly on the other issues, also by strongly diminishing the time devoted to non-urgent standard agenda items);
 - on top of the definitive anchoring of ALADIN-2 (see above), the follow-on process of the ALADIN MoU should be central to the discussions at this Assembly; given the link between this and the ALADIN-2 planning and supervision, it is expected that the outcome of the AAA-meeting will allow compiling a list of important modifications necessary to the MoU. After discussion by Directors, this could be converted in Split into draft proposals for the official replacement of the MoU (targeted to the Bratislava Assembly of Fall 2005).
- There is a need for more gatherings of the type of community assembled at the occasion of this 'AAA' ad-hoc meeting. This should mainly happen at the occasion of other events (ALADIN Workshop, EWGLAM-SRNWP, Assembly). Additionally each big item of the working plan should have a coordinator and/or contact points. All this should progressively lead to a new scientific steering structure for the new project.
- One ought to extend the scope of the next ALADIN workshop: discussion sessions are required on a few well-targeted topics, and one could extend the already identified main one to "developments and plans in physics", in order to attract more scientists.