Minutes of the 9th ALADIN PAC Meeting

Bratislava, June 4-5 2011

List of participants:

PAC members	*ALADIN Programme Manager*	*observers*	*secretary*
Michael Staudinger (Vice Chairperson)	Piet Termonia	Dijana Klaric (LACE Programme Manager)	Maria Derkova
Philippe Bougeault		Claude Fischer (CSSI Chairperson)	
Radmila Brozkova		Sylvain Joffre (HAC Chairperson)	
Alain Joly			
Maria Monteiro			
Vladimir Pastircak			

Excused: Abdalah Mokssit

1. Opening and welcome

P. Nejedlik, general director of Slovak Hydrometeorological Institute, welcomed participants in Bratislava and wished them a fruitful meeting. Due to the absence of A. Serrão, appointed as chair of PAC by the GA in 2010, the vice chair, M. Staudinger, chaired the current PAC meeting in agreement with Klemen Bergant, the chair of the ALADIN General Assembly. He welcomed participants and asked for some patience with him in his new role. This role turned out to be very well fulfilled.

2. Adoption of the Agenda

Agenda was adopted as proposed.

3. Final approval of the minutes of the 8th PAC meeting in Brussels

Minutes from the 8th PAC meeting were adopted.

4. PAC matters arising from previous meetings

It was proposed to treat the items as they successively appear on the Agenda.

5. ALADIN planning and reporting

5.1 Progress report: highlights, critical issues and actions demanded by the GA

The progress report was presented by P. Termonia, ALADIN PM. In the discussion the following issues were detailed:

- The OOPS Project (reorganization of the code in object-oriented way): some LAM staff starts to become familiar with the model-state part of the content of this project and pending technical questions (LAM OOPS days in Reading in February; analysis work started by D.

Degrauwe). Discussions about LAM aspects in OOPS are just starting: extension of Fieldsets to LAM, geometry.

- The flux-conservative physics-dynamics interface: is it working for openMP parallelism? This has to be verified (as e.g. the new DDH initial design didn't run well in openMP). It was answered that attention would be paid to this issue as Meteo-France is bound to have the code openMP compatible.

- The "3MT in ARPEGE" action: coding is finished, the scientific validation should start (some tuning might be necessary). To be discussed during ALARO-1 working days, Ljubljana, June 2012.

- The international cooperation: there is a need to collaborate on international level, both to get other sources of funding and to get in touch with other experts (climate modelers, universities, mathematicians). There is an opportunity for bilateral cooperations with Meteo-France; HIRLAM would be interested in EU programs like "future and emerging technologies"; there are many EU programs targeting climate modeling (focusing more on applications, not on pure research); also year 2013 is the year of the planet Earth and mathematics applied to geosciences" which can bring some opportunity to get in touch with a new community (dealing with novel methods for highly optimized fluid dynamics) It seems that there are quite some opportunities, everybody should be active and if some interesting call/proposal/project appears, others should be informed immediately.

- Provision of OPLACE data to non-LACE countries: in principle this is possible, but both data policy issues and consequent technical problems are to be solved. The RC LACE data policy is based on WMO documents & individual bilateral agreements. As the RC LACE countries and potentially interested non-lace NMS are not at the same level of EUMETNET membership, care has to be taken for each data set and some filters are to be developed and applied.

- End-user inquiry: an attempt to define an exemplary end user is ongoing, in order to propose and develop tools to verify the forecast and access its potential and quality for the end users. Similar exercise might be to define exemplary NMS and/or to add forecasters to end users. In particular the verification procedure should incorporate the forecasting procedure. To complete the link between end users and the verification, extra coordination, by a coordinator is needed. The result should be a verification package (R-based) that would be provided to NMS to verify their models locally. However, due to increasing model resolution and new data used, new techniques for model validation and verification shall be developed apart from standard verifications against stations.

5.2 Work plan: prioritizing for the next year

The list of priorities (with special emphasis on critical issues that need more momentum) was given by PM (taken from PM slides):

- Give the activities on the end-user problem and the verification a fresh kick. Provide a definition of the end user to the GA in Vienna. It is crucial to find an expert with sufficient management skills to coordinate this. A proposal will be made during the PAC
- Finalize the physics-dynamics interface.
- Clarify the use of PREP, its inclusion in full pos and the use of FA files for SURFEX. Consider configuration 903 as well (for HIRLAM)
- Put an effort in the use of CONRAD by the ALADIN partners (DA WW organized last week of June). At the same time get involved in COPE, similarly as we are doing currently for OOPS.
- Define the LAM model state in OOPS, and take care of the phasing procedure.
- Carry out tests of PCMT and 3MT in the global model ARPEGE.
- Provide a planning for the assemblage of ALARO-1 during the ALARO-1 workshop.
- Analyze the structure of APLPAR and APL_AROME, propose a plan for a feasible recoding, find man power, execute.
- Start the literature study on numerical approaches, other than our 2TL SI SL, spectral A-grid approach. A two-week flat-rate stay is planned in Brussels to provide a first overview of the literature review, but this may be too little.

- Train code experts. Three actions are foreseen: PREP in full pos, C++ training in Madrid, definition of the fieldset. The latter can be seen as a hands-on manner to get familiarized with the (future) structure of OOPS.

In the discussion the missing EPS and nowcasting topics were mentioned. EPS is progressing well. Nowcasting is part of forecasting within EUMETNET but with quite little activities.

For verification coordinator, Ch. Zingerle is proposed (1/3 position), but the funding has to be solved.

6. ALADIN program definition and activities

6.1 Licences

There is an ongoing openIFS project @ECMWF: it is not yet decided whether there will be an open source license or a R&D license. Meteo-France position is also open for the time being. What parts of ALADIN LAM code could/could not be potentially part of it: non-hydrostatic (NH) code, radiative upper boundary condition (RUBC); geometry package (EGGX)? (Post-meeting note: finally, none of these features will be included in the first OpenIFS code. Also, the project is, in its first stage, aiming at a few universities in Europe.) In principle this issue is covered by Article 10 par. 81 of the MoU: the decision is to be made by ALADIN GA. It was mentioned that it would be useful to have a list of licenses that were already provided by GA, and also a list of GA decisions concerning applications of above-mentioned paragraph of MoU. We need to get more detailed information by ECMWF about their intentions, until the next ALADIN GA. In any case, PAC agrees that the licensing aspects raised by openIFS seem manageable on the basis of the present ALADIN MoU.

The GLAMEPS data policy was discussed. The owner of the GLAMEPS products are the Partners who are developing them, as stated in MoU. The HIRLAM idea of GLAMEPS product partners that are contributing to the maintenance (man-power or SBU) was proposed. According to the PM's opinion a data policy should address three issues: (i) the science (making it available as widely as possible), (ii) the commercial aspects of product development and (iii) the operational guarantees for the production (e.g. the time criticality, TCF-2 at ECMWF). To address point (ii) and (iii) it has been proposed to introduce a notion of GLAMEPS product partners. An ALADIN (and HIRLAM) partner can belong to this if he contributes to the operational facilities (e.g. in terms of man power or SBUs). In return this partner will get guarantees for product development.

The concern about the commercial use of GLAMEPS products was expressed: each involved country (ALADIN or HIRLAM) may commercialize these products only on its own national territory. Remark: The case of ALADIN countries is treated in the MoU. Is this data policy solved in the agreement on cooperation between ALADIN and HIRLAM?

The link with LAEF was left open but can join this later if it is found to be beneficial. *This has to be worked out in more detail but PAC agreed with this approach.*

6.2 Changes in the provision of the coupling files to the partners

A. Joly presented a document explaining the motivations and background of the proposed revised schedule of the ARPEGE 00UTC runs at Meteo-France and its impact on the production of the lateral boundary data (LBC) for Partners' ALADIN/ALARO applications. It is planned that the early 00UTC ARPEGE run (PACOURT, +54h) will start 45min earlier (00:25UTC). The "standard" 00UTC ARPEGE production run will be delayed for 45min (starting at 03:00UTC). However, benefiting from longer assimilation window, the products would be of higher quality. The proposed timings and possible solutions for ALADIN Partners are picked up from A. Joly's presentation:

Lateral boundary data sources

	time (UTC)	
Prod. Arpege 18UTC	**22:00**	+60 h
new Early Arpege 00UTC	**01:10**	+54 h
new Prod.Arpege 00UTC	**04:05**	+54 h
	04:25	+102 h

Freely downloadable from the internet

Prod. GFS 18UTC	**22:00**	+72 h
Prod. GFS 00UTC	**04:20**	+120 h

(above times are availability of raw forecast data)

For ECMWF member and associate countries

Prod. IFS 12UTC	**18:15**	+72 h
Prod. IFS 18UTC (optional)	**00:15**	+72 h for BC-LAM members
Prod. IFS 00UTC	**06:15**	+72 h

(above times are dissemination times)

Proposal from Météo-France

Partners not currently using the Early Arpege 00UTC run may consider:

- **shifting** lateral boundary data files from the 00UTC Production run **to the Early run**,
  - **benefit**: more time available for doing new things or, at least, to enable not to do anything,
  - **drawback**: loss of quality with respect to current 00UTC Arpege production,
- requesting a **new set** of lateral boundary data files **from the Early run**, while keeping the existing 00UTC production set,
  - **benefit**: consider splitting the early morning production, some based on the Early Arpege, some based on the Production Arpege,
  - **drawback**: Check that telecoms can swallow both. May lead to implement one's own Early production suite: more work.

Giving-up using Arpege for lateral boundary conditions is an obvious question to consider. However, given the current new schedules, the quality closeness between IFS and Arpege at short range and the results from the Canadian group, the answer is not that obvious.

The final Meteo-France decision is expected early in July. The feedback from Partners is to be received till the end of June.

In the following discussions several items were mentioned:

- It was requested that further impact on the quality of data should be demonstrated by Meteo-France.

- The LBC data from the already performed tests should be available to Partners. It was answered that the ARPEGE historical files are in principle available on the MF archive, but there is no manpower available in short time to produce coupling files. However, the mechanism to produce on-line LBC data for LACE and Belgium from e-suite exists, so in principle it should be possible to provide those in case of running the e-suite.

- There is an obligation for several Partners to provide products for their customers till 06h local time. This is already on the edge in summer period in Central and East Europe. Especially for countries using the East European time the planned changes in ARPEGE schedule could be devastating for their production. (NOTE: this is a somewhat different problem that exists independently of changing the schedule of the 00UTC production run. AJ encourages these partners to consider using the early Arpege run, which has been implemented precisely for providing critical forecasts at 6h local time in France, so with one more hour with respect to EE time.)

- The early ARPEGE run is available only up to +54h, which could be a problem for Partners having +72h forecast length.

- It was requested that both sets of LBC data (from early ARPEGE and standard but shifted production ARPEGE) are made available to all Partners. It was answered that in such case the telecommunication and archiving capacity and the number of accesses to BDPE should be carefully evaluated.

PAC's point of view: PAC sees the advantages of improved products quality in proposed schedule presented by A. Joly, but considers the overall impact of that proposal as detrimental to the whole community. The most critical difficulties are the above-mentioned limitation of the +54h production of the ARPEGE run and the problem for the Partners producing on Eastern European time (the nominal run would be too late). Therefore Météo-France should consider taking the decision at a later point, when more results are available and the necessary adaptations of the production suites at the concerned NMHSs of the partners are identified and its impact on the production is assessed. We encourage Météo-France to investigate the possibility to extend the +54h products range of the early ARPEGE to +72h for all Partners, as its representatives proposed to do. To keep the production suites in Partners' NMS, PAC also supports the proposal that coupling files from both runs should be available to all Partners.

Post meeting note: finally, the Arpege schedule will not be changed this year. While it is acknowlegded that Météo France may have a need to readjust its operational schedule in the coming years, the items in the above-mentioned bullets and in PAC's view point, should be considered if the issues are reopened in the future. Countries operating under Eastern European time should nonetheless consider using the Arpege early run for at least the first two days of their morning production. This could be helpful for their own internal organization and this would make possible future discussions on this topic easier anyway.

6.3 Update on recent events (ALADIN workshop, other meetings)

The verification meeting held in Brussels, 27-29 March, was a successful kick-off of further actions: work plan is written, coordinator is needed (potential candidate is identified).

The SURFEX steering committee meeting was organized. The SURFEX working week is planned in Brussels, from 24 to 28 September, with the focus on code aspects and operational applications.

The ALADIN/HIRLAM workshop in Marrakesh (May 2012) was excellently organized but less attended due to financial crisis. There were many interesting presentations but the balance between topics (data assimilation vs. physics vs. dynamics) was not equal. The LTM's meeting was very fruitful, the CSSI one quite loaded (for example the long term plans were not addressed at all).

6.4 Management: CSSI/LTM.ST, Task force matters, ACNA

R. Randriamampianina was appointed for ACNA position, PM appreciates his work. However, there are still problems with funding.

The candidate for the verification coordinator is Ch. Zingerle. The approval of his Direction is needed. If appointed, he should be also nominated for SRNWP verification Expert Team.

As mentioned during ALADIN/HIRLAM workshop in Marrakesh, the amount of contributions for ALADIN Newsletter is steadily decreasing. As the Newsletter is felt to be important for internal consortium communication, PM will try to stimulate contributions sending. Is there a need to have an editor?

6.5 Link with HIRLAM

The report on HIRLAM activities was given by S. Joffre. He highlighted that:

- The Programme is well on track
- The Scientific and Operations Plan and the 2012 Annual WP were endorsed by HAC
- HARMONIE 36h1.4 (Dec. 2011) and HIRLAM v7.4 (March 2012) were released
- Pre-processing, preliminary impact studies and RUC studies with high-res observations were performed
- Hybrid ensemble assimilation methods were transferred to Harmonie

- Good performance of Harmonie in pre-operational suites and validation studies was acknowledged
- TCF-2 status for GLAMEPS and (good-looking) first real-time verification results were obtained
- On-duty monitoring team effectiveness in bug detection was demonstrated
- A strong effort is devoted towards the greater use of high-resolution observations from radar, GPS and satellites in the Harmonie assimilation system
- Good progress with SURFEX was achieved: better operational capacity
- Various needs for training were identified: Harmonie, C++, EPS, users. Efforts to fulfil them will be developed by the Management Group
- Several issues under consideration in MG, HAC and Council appeared:
    - format and procedures for a Harmonie-RCR (Regular Cycle with the Reference)
    - GLAMEPS data policy
    - Need for a stronger cooperation & coordination with IFS (and MF)
- Forthcomming meetings: Hirlam Council (June 14, 2012) and HAC-4: 26-27 November 2012

6.6 Maintenance/code issues: local technical knowledge, transfer, OOPS

The overview of maintenance aspect was given by C. Fischer.

In the discussion the question of local RADAR data processing in NMS was addressed. There is indeed slow progress within the OPERA program and the currently used procedure is rather technically demanding. The coordinated optimization of local software/procedures is proposed.

Concerning the COPE project, it should be closely followed: ACNA shall be in contact with F. Rabier. It was mentioned that the COPE C++ code should be easier to learn than the OOPS one. HIRLAM organizes C++ training in Madrid. It would be useful to send some ALADIN experts as well. LACE might have problem to finance LACE participations as no extra funds were approved (D. Klaric will see after all meetings planned for June).

Concerning phasing, the knowledge level of newcomers was appreciated. It was asked how the HIRLAM participation on phasing could be more effective: better coordination and streamlining of contributions is found beneficial, but participation to core validation of a new cycle is hindered so far (dilemma of too short stays in Toulouse versus remote efficient participation). The strategy for bugfixes coming fron non-Meteo-France side was opened. It was answered that those are to be sent to C. Fischer and GCO team. There is a bugfix branch for each cycle; the incremental upgrades of export version of the code would be made if needed. Also, the phasing reports (including the interim once) are regularly distributed to designated contact persons.

6.7 EUMETNET matters

There are several issues important for NWP (OPERA, EWGLAM). SRNWP might be seen as a body to prepare for funding opportunities regarding research on the evolving dynamical cores, , i.e. SRNWP discussions, coordinated between the dynamics ET and the system ET, could lead to a workplan for intercomparison tests of the existing dynamical cores, and such a plan may be then used for submission in future European funding calls. It was mentioned that currently there is no Expert Team coordination on dynamics, only on system. Also, the position of C-SRNWP Program Manager will be probably free next year (there might be a candidate from Spain). Current SRNWP-I (interoperability) program will end this year (potentially there might be a transition to SRNWP-EPS

program). Convertors are under development in the frame of SRNWP-I, but their completion and maintenance are not guaranteed as people are now working more on OOPS.

The contact with EUMETREP shall be established – HIRLAM will probably take care.

6.8 Mid-term review of the program (input from PAC sought)

It was discussed whether there is a need to have a mid-term review? It was agreed that there exist other procedures to check that the program is running and to report feedbacks if something doesn't go well. Therefore there is no need to have it now. HIRLAM has no plans for mid-term review.

PAC decision: there is no need to have mid-term review.

7. Cooperation agreements and membership

C. Fischer explained that Meteo-France has been contacted by the weather section of the Korean air force with request for the ALADIN source code . The interest was motivated by model inter-comparisons (with WRF, with Met Office models …).

It was asked whether model intercomparison could be useful/interesting? ALADIN was already taking part in such intercomparison through the WMO exercises organized in the frame of the Beijing Olympic Games, and will take part in following two as well. It was remarked that this kind of activity cannot be considered as research one.

The ALADIN MoU states the rules and principles of collaboration. The collaboration is on the level of NMS: the code is not for free. A potential candidate shall first get involved in some scientific exchange (or collaboration), and later become an Acceding Member along the lines defined in the MoU. It was proposed that if the Korean partner is really interested in the collaboration, upon their initiative (with the knowledge of MoU) they could come to Meteo-France for a scientific visit. There they could get general knowledge about the system and run some experiments (without access to the source code).

PAC decision: In case the Korean partner is seriously interested in collaboration with ALADIN, the conditions of becoming an Acceding Member should be explained to them and a scientific visit can be hosted by Meteo-France.

8. Resource matters:

8.1 Manpower status: reporting practices and update on the manpower registration and accounting

PM presented the usual man-power statistics evolution.

It was noted that these statistics have no link with the working plan, as the latter one follows a different logic (common with HIRLAM). PM promised to devote some effort and discuss the issue with P. Pottier. Also, it was mentioned that accounting on working hours is less important than results-based working plan.

Concerning the coordination, CSSI members, as part of an advisory committee members have no tasks on-duty, since their contributions are all in-kind (from the corresponding member NMS). Therefore actual task force leaders are sometimes missing who could liaise with HIRLAM and/or LACE area leaders "at equal to equal". They exist for critical tasks (ACNA for networking, planned one for verification); and PM coordinates the transversal issues. Taking the example of "3MT in ARPEGE", the coding was kind of solo action, for validation a coordinated effort is needed. Another example is SURFEX, that people would like to use where there exist technical constraints that have to be addressed first. Therefore a technical coordination meeting is to be organized in Brussels. Also LACE has planned coordinated action on SURFEX implementation, but it never happened. Additionally the activities on verification would benefit from extra coordination.

8.2 Budget matters:

8.2.1 Accounting of the ongoing 2012 budget

PM presented the document with the accounting of the ongoing 2012 budget. There were no questions/comments on the document.

8.2.2 PAC's first guidance for 2013 budget

It was mentioned that the estimated savings/increases in missions costs for 2013 budget are difficult to specify without exact numbers.

Concerning the financial contributions of Members, PAC recommends to follow Article 7 par. 62 of the MoU (ceiling increases according to yearly inflation in the EURO zone, minimum flat rate contribution should not exceed the ceiling). While being aware of the difficult financial times, it is agreed that a flat rate amount equal to the inflation-adjusted ceiling should be proposed at the GA for 2013.

PAC recommendation concerning the financial contributions from Members: to follow the rules in Article 7 par. 62 of the ALADIN Memorandum of Understanding [i.e. a ceiling value (originally set at 8200 Euro for 2011) adjusted by the inflation adjustement of the 8200 Euro flat rate sum]; a flat rate sum equal to this adjusted ceiling.

9. AOB

Back-check of issues from item 4 (cf preparatory document):

- Concerning the planning (rolling[1] work plan and improvement of annual WP), the issue was discussed with LTMs and CSSI during their meetings in Marrakesh.
- Concerning the flexibility in ALADIN budget, the issue is still open. It was proposed that all missions are to be planned before February, but for example this year the OOPS training is not planned yet.
- Concerning the potential extension of the ALADIN consortium, PAC supports the openIFS Project, and strengthening the link with Academia.

10. Date and place of the next meeting

M. Monteiro invited PAC for its 10th session to Portugal. Preliminary dates are 11-12/06/2013.

It was demanded that PAC members should announce their absence sufficiently in advance, so their deputies could be invited to attend the PAC meeting. Also, the list of deputies of PAC Members (as defined in MoU) should be updated.

11. Closing

M. Staudinger thanked all participants for their work and closed the 9th PAC meeting. The very good organization of the meeting and of the evening by our colleagues from the Slovak Hydrometeorological Institute was warmly acknowledged by all the participants as well as M. Staudinger's chairmanship.

[1] So far we have been writing common ALADIN-HIRLAM annual work plans. It has been decided to write a rolling plan for the span of the two MoU's (until 2015) to simplify the redaction procedure. The idea is that in this plan that this plan is not rewritten each year but rather updated in terms of priorities each year.